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ACQUISITION RESEARCH SPONSORED REPORT SERIES

Market Intelligence Guide

5 January 2012

by

Lt Col Timothy Hawkins, Lt Col Michael Knipper, Capt Jason Ackiss, Capt Derek Aufderheide, Capt Pavan Balaji, Capt Mike Corrigan, Capt Amanda DeLancey, Capt John Dix, Capt Bryce Fiacco, Capt Dan Finkenshtadt, Capt Trey Fryman, Capt Ken Haile, Capt Caitlin Harris, Capt Jeremy Maloy, Capt Mike Mealiff, Capt John Muir, Capt Josh Nabors, Capt Andy Peterson, Capt Andrew Pratt, Capt Andrew Ramsey, Capt James Simmons, Capt Dan Stephens, Capt Neil Wall, Capt Brian Williams

Graduate School of Business & Public Policy

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Abstract

Sound market research is the foundation of effective acquisition decisions and processes. However, this axiom appears to be undervalued in the government procurement domain. While agencies are responsible for conducting market research appropriate to the procurement situation, very little guidance is available to assist acquisition personnel to meet the intent of the FAR. The FAR offers little direction; Parts 10 and 12 dedicate a mere 1,477 words to the topic of market research. Existing market research guides are outdated, do not emphasize efficient outcomes, and do not address market research needed to support strategic sourcing. The government's current approach to market research is ad hoc, inconsistent, and redundant since information is rarely shared between buying activities. Additionally, no existing research or policy addresses how to properly organize or resource the collection and use of market research. Furthermore, specific skills for determining needed information, finding it, analyzing it, and disseminating it are not systematically taught or developed in the government's acquisition workforce. Many commercial best practices (e.g., industry analysis and a purchasing portfolio matrix) that are transferrable to the not-for-profit sector are absent. Each of these tools is essential to designing the optimal contract that reaps the most value from the exchange. Therefore, this market intelligence guide is developed to address the aforementioned deficiencies in an effort to provide acquisition personnel practical guidance on conducting meaningful market research. It is targeted toward strategic sourcing and complex, high-value federal procurements.

Keywords: Market Research, Market Intelligence, Acquisition Strategy, Efficiency



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Introduction

Purpose

This guide provides assistance to acquisition personnel in developing market research strategies and activities for their acquisition programs involved in strategic sourcing and complex, high-value U.S. federal procurements. The guide provides implementation instructions for Federal Acquisition Regulation (FAR; 2011) Part 10, which prescribes policies and procedures for conducting market research to arrive at the most suitable approach to acquiring, distributing, and supporting supplies and services (HQ AFMC, 2007). Additional market research policies directed by FAR Part 7 and FAR Part 11 are addressed in this guide (HQ AFMC, 2007). The guide will serve as a roadmap for you during this process and walk you through all the necessary steps needed to execute market research for your requirement. Additionally, this guide introduces a new theory for the use and purpose of market research that moves away from a step-by-step linear model into a cyclical and dimensional model.

Market research is the continuous process of collecting information to maximize reliance on the commercial marketplace and to benefit from its capabilities, technologies, and competitive forces in meeting an agency need (Department of Defense [DoD], 2011). Market research is a vital means of arming the acquisition team with the expertise needed to conduct an effective acquisition. This type of information determines the suitability of the marketplace for satisfying a need or requirement (DoD, 2011). The market research process is essential for enabling the Government to buy mission-critical products and services that provide the best value for the taxpayer's money (DoD, 2011).

Market research gathers current data on existing market sectors to identify potential sources of supply, commercial product characteristics, market characteristics, commercial item standards and best practices, emerging technologies, vendor capabilities, non-developmental item solutions, and



Government leverage opportunities so that informed acquisition strategy decisions can be accomplished (HQ AFMC, 2007). Market research is used to identify potential sources in the marketplace and is not a source selection process. Personnel conducting market research activities are free to engage potential sources one-on-one to gather information on the goods and services offered in the marketplace (HQ AFMC, 2007). Market research consists of two parts—market surveillance and market investigation:

- Market surveillance is an ongoing process and includes activities that the acquisition team performs continuously to keep themselves abreast of changes in the marketplace such as technological advances, process improvements, and available sources of supply. The purpose of market surveillance is to maintain a current knowledge base of the depth, breadth and dynamics of the market sector (HQ AFMC, 2007).
- Market investigation is a comprehensive market research survey conducted in response to a specific acquisition or need. The purpose of market investigation is to collect supporting data and documentation to determine an appropriate acquisition strategy (HQ AFMC, 2007). The appropriate acquisition strategy may include pre- and post-award considerations (as stated in the Background section of the Introduction). This may include the following: planning for new acquisitions, deciding to exercise an option, determining the effects of key supplier mergers, and so forth.

Rationale

While agencies are responsible for conducting market research appropriate to the procurement situation, very little guidance is available to assist acquisition personnel to meet the intent of the FAR. The FAR (2011) offers little direction; Parts 10 and 12 dedicate a mere 1,477 words to the topic of market research. The Department of Defense (1997), Air Force Logistics Management Agency (1997), National Aeronautics and Space Administration (NASA; 1998), and Air Force Material Command (AFMC; 2007) have developed market research guides; however, they are outdated and do not address market research needed to support strategic sourcing. The Government's current approach to market research is ad hoc, inconsistent, and redundant because information is rarely shared between



buying activities. The Air Force had an on-line market research repository system known as MRPost. MRPost was a good idea, but was not utilized for the following reasons: policy did not enforce usage, it was not publicized well enough to users, or the users viewed it as just another task to perform instead of a valuable source of information. Government agencies rarely budget for commercially-available market research and no existing policy addresses how to properly organize the collection and use of market research. Furthermore, specific skills for finding, analyzing, and disseminating information are not systematically taught or developed in the Government's acquisition workforce. However, a study of 30 large firms showed that business and market analysis is a necessary skill of a world-class purchaser (Giunipero, 2000). Perhaps most alarming is the FAR's lack of attention to efficiency. Many commercial best practices that are transferrable to the not-for-profit sector are absent. Examples include a Strengths, Weaknesses, Opportunities, Threats (SWOT) analysis, industry analysis (Porter, 1979), and the purchasing portfolio matrix (Kraljic, 1983). Each of these tools is essential in designing the optimal contract that reaps the most value. Part of the rationale behind this guide stemmed from the literature reviews conducted in developing it. As stated above, we reviewed market research guides from multiple agencies. Based on these guides, we conducted attribute mapping as part of our methodology discussed later in this chapter. Some key findings in mapping the attributes are found in Figure 1.



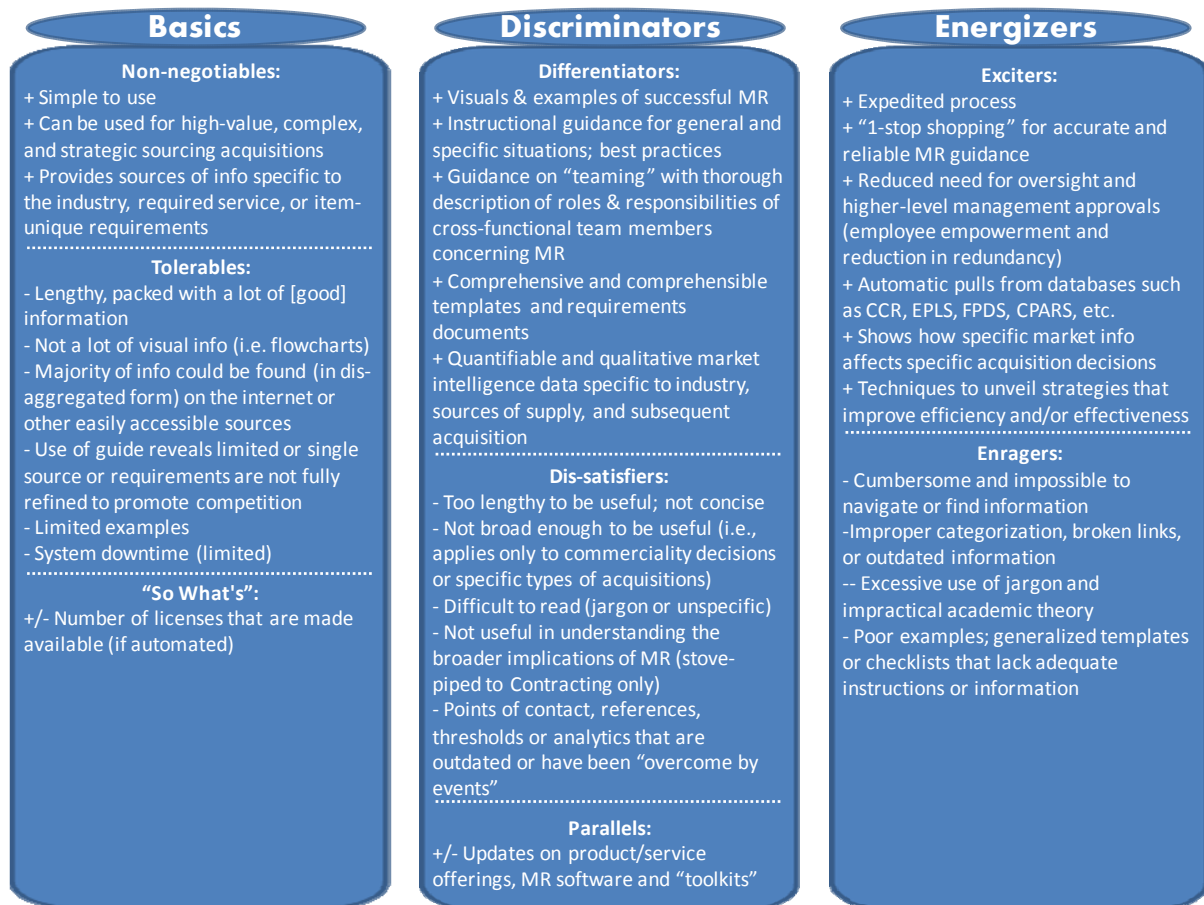


Figure 1. Attribute Map of A Market Research Guide

Background

Market research has been a statutory requirement since the passage of the Competition in Contracting Act (CICA) in 1984, which required the use of market research and procurement planning to promote the use of competitive procedures in federal contracting (General Accounting Office [GAO], 1996). Congress re-emphasized the importance of market research in 1990 for the Department of Defense (DoD) with the National Defense Authorization Act for Fiscal Year (FY) 1991 (GAO, 1996). The act encouraged the DoD to save money and reduce cycle time by procuring commercial items. Furthermore, the Federal Acquisition Streamlining Act (FASA) posed additional requirements for market research when enacted in 1994 (GAO, 1996). The act required federal executive agencies to



conduct market research before developing new specifications for a requirement and before soliciting proposals for a contract expected to exceed the simplified acquisition threshold (SAT). Additionally, the FASA requires that contracting officers use market research to determine whether commercial items or non-developmental items could meet their agency's needs if the requirement was modified to some extent. The Federal Acquisition Reform Act (FARA) was passed in 1996 (GAO, 1996) and included changes to reduce paperwork, increase competition, streamline the procurement of goods and services, and open the federal marketplace to commercial companies previously not interested in working with the Government (GAO, 1996). Two of the biggest changes brought by the FASA and the FARA were the significant discretion entrusted to the contracting officer in acquiring commercial items and services and the increased attention to market research as an integral part of the procurement process (GAO, 1996).

DoDI 5000.2-R, Mandatory Procedures for Major Defense Acquisition Programs and Major Automated Information System Acquisition Programs (USD[AT&L], 2002), requires that market research and analysis be conducted to determine the availability and suitability of commercial and non-developmental items prior to the commencement of any development effort, during the development effort, and prior to the preparation of any product description (DoD, 1997). FAR Part 10 (2011) prescribes policies and procedures for conducting market research to arrive at the most suitable approach to acquiring, distributing, and supporting supplies and services (DoD, 1997). This handbook is intended to complement DoDI 5000.2-R (USD[AT&L], 2002) and FAR Part 10 by providing general guidance, tools, and examples to assist in conducting market research for a wide variety of items and services (DoD, 1997).

The aforementioned laws and regulations require the accomplishment of market research. However, outside of a push for commercial items and services, the laws and regulations offer little in terms of the quality of market research and how this affects acquisition outcomes (in both pre- and post-award contracting decisions). Hence, there is a difference between compliance and effectiveness.



Today, a contracting specialist can perform a cursory collection and documentation of market research and be compliant with the FAR, but at the same time, forego value due to the omission of key information. Clearly, mere compliance is insufficient. Given current fiscal constraints, the federal Government is gradually elevating the importance of efficiency—one of several key goals of the federal acquisitions system (FAR Part 1.102). Smart, informed decisions in pre- and post-award contracting decisions strongly impact the efficiency of contracted outcomes. Market research is the key to making better decisions that provide more value to the customer and to the taxpayer.

Market research also contributes to the development of reliable cost estimates and budgets (Denali Group, 2009). The need for market research does not stop upon contract award; it also supports the negotiation of post-award matters such as changes and dispute resolution, and is essential throughout the life of the contract (Leenders et al., 2006). Agencies must ensure that previously negotiated prices remain fair and reasonable prior to exercising options. This supports why market research is imperative in the post-award phase of the acquisition.

The more critical, valuable, complex, and risky the procurement, the more important market research information becomes in order to craft a contract that manages performance risk, maximizes contractor performance, balances financial risk to both parties, and meets agency needs. Figure 2 lists contracting processes that require valid and complete market intelligence in order for acquisition teams to make optimal business decisions.



- | | |
|--|--|
| <ol style="list-style-type: none"> 1. The number and identity of capable suppliers 2. The number and identity of capable small business suppliers by socio-economic category 3. Cost Drivers 4. The nature of customarily offered products and services 5. Current market costs and prices 6. Inflation/deflation rates 7. Typical evaluation criteria used to discriminate between offers 8. The structure of the marketplace 9. Analysis of the industry 10. Power positions of the prospective suppliers relative to the buyer 11. Customary terms and conditions 12. Incentives that effectively motivate supplier performance 13. Customary payment terms 14. Intellectual property rights 15. Typical contract types 16. Contract line item structures 17. Contract durations 18. Customary surveillance methods and frequencies 19. Typical service and performance levels 20. Prospective supplier financial health 21. Proactively addressing diminishing manufacturing sources and obsolete parts issues (HQ AFMC, 2007) 22. Determining how attracted prospective suppliers are to the business 23. Price volatility 24. Energy conservation potential and the use of recoverable material 25. Assessing the impacts of emerging technologies to enhance customer capabilities and potential system performance or reliability improvements 26. Definitions of requirements 27. Delivery lead times 28. The availability of commercial items and services 29. Customary warranty terms | <ol style="list-style-type: none"> 30. Appropriate supplier performance metrics 31. Engaging existing commercial logistics and maintenance support infrastructures to decrease total life cycle support costs 32. Whether a reverse auction is appropriate 33. Required buyer financing 34. Market discounts or rebates 35. Applicable laws and regulations 36. Risks of particular suppliers based on their record of performance 37. Customary profit margins 38. Typical overhead rates 39. Existing government contracts 40. Identify conflicts of interest 41. Macro and microeconomic indicators 42. Improve spend analysis by identifying mergers and acquisitions 43. Production rates 44. Assess supply and demand 45. Labor rates 46. Inventories 47. Data needed for SWOT analysis 48. Assess market share held by prospective suppliers 49. Supplier locations 50. Supplier revenue models 51. Manage subcontracts via subcontract consent, socio-economic goals, and contractor purchasing system reviews 52. Whether expected savings will meet thresholds to justify bundling or consolidation 53. Supplier capacities 54. Optimizing best value acquisitions through competitive market pressures 55. Evaluating the government's leverage in the market sector in terms of how extensively the government's requirements influence the available business opportunities and market trends in that sector 56. Whether performance-based contracts are used 57. Identification of best-in-class suppliers |
|--|--|

Figure 2. Pre- and Post-Award Demands For Market Intelligence

Federal agencies are responsible for strategically sourcing goods and services (Office of Management and Budget [OMB], 2009) in order to maximize the value of taxpayer funds and to obtain high performance levels from contractors. Strategic sourcing is “a collaborative and structured process of analyzing an organization's spend and using the information to make business decisions about acquiring commodities and services more efficiently and effectively” (OMB, 2005). In strategic sourcing, requirements are aggregated, contract values are increased,



customers per contract are increased, and suppliers are rationalized. Hence, complexity, value, risk, and importance increase with strategic sourcing. In order to save money, Government acquisition members must focus more precisely on the cost drivers of the market, necessitating atypical needs for market research data. This new focus on efficiency magnifies the vagueness of the FAR. The FAR provides very little direction to contracting personnel as to what information to collect, where to find it, or how to use it (i.e., what decisions it affects).

Commercial sector firms have long recognized the importance of market research to effective supply management. Successful market research can become a firm's competitive advantage (Porteous, 2011). Many firms staff business intelligence cells that feed commodity councils with key information and data (Ashenbaum and Pannelle, 2007; Zsidisin, 2005). One firm saved \$194 million through the collection and use of market intelligence (Zsidisin, 2005). From recent remarks posted to a professional user group on a social media site (Figure 3), you see that many sourcing professionals view market research/market intelligence (MR/MI) as a way not just to make a good decision, but to optimize a range of sourcing variables towards a best possible decision for sourcing.



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Does anyone use procurement or supply chain intelligence when developing category strategies?
2 days ago

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Debra likes this
6 comments

Wilbert • Yes, it is essential to use procurement intelligence when developing strategies. One must know current market conditions and trends, potential shortages, political unrest, production capacities and future plans of the major suppliers.
1 day ago • Like • Reply privately • Flag as inappropriate

Debra • I agree with Wilbert, if you don't then you are not optimizing potential for savings and efficiencies. Procurement intelligence isn't new, it's just become a more highly visible tool resulting from improvements in technology and access to data. In Strategic Sourcing, you do not need to be a SME, but you do need to know how to define and access data necessary to make good decisions.
1 day ago • Like

Tony • I have been trying to encourage all my clients to invest in procurement/sourcing intelligence for some considerable time. However with many it seems to be something they are happy to give purely lip service only. I have been under the impression that I was a lone voice on this matter.
1 day ago • Like

Christine • Bluntly put, you can't call yourself a category manager without it!
1 day ago • Like

Kalpesh • Tony I am sure you see an up hill task! If we read though the reports being published across the board you will observe more generic references for a category rather than specifics that may be dealing with an immediate need for a category lead. Unless the focus is driven to customized needs for a spot requirement ... like say sourcing for Laptops ... with HP planning to hive of the Laptop business what options as a category manager I am left with ... would make an interesting information if I am sourcing Laptops today.
21 hours ago • Like

Amit • Procurement or supply chain intelligence is the back bone of all category strategies. Unless and until you are aware how the external forces are acting for a category, you cannot make a meaningful and effective category strategies. Let me take Laptop example. Unless and until, I am aware what actually is Laptop (definition), what purpose does it resolves, what cost drivers are, what are the pricing elements, who are the suppliers, what is the specification, etc etc. how can I make a robust strategy or for that matter I cannot think of a robust strategy without knowing these facts and figures. So

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Manager's Choice

DETAILS: Group call next week on continuing education (aka "how to stay relevant, strategic & professionally desirable")
See all »

Top Influencers This Week

Ray

Figure 3. Sourcing Professionals' Views of Market Research/Market Intelligence (MR/MI)



Information gathering, dissemination, and use are grounded in market orientation theory (Kohli & Jaworski, 1990). This theory depicts how firms collect information regarding customer needs, disseminate the information within the firm, and respond to the information by designing and offering products and services that meet customer needs. A meta-analysis of market orientation (Kirca et al., 2005) shows that a market orientation increases innovativeness. Innovativeness increases customer loyalty and quality which, in turn, increase organizational performance (profitability). In order to facilitate information gathering, dissemination, and use, organizations need top management support, supporting interdepartmental dynamics, and supporting organization-wide systems. Departmentalization, formalization, and centralization hinder intelligence generation, dissemination, and response. These are strong characteristics of Government organizations, which might hinder their effective use of market research.

Firms can also benefit from collecting and using information from suppliers. “A supply chain orientation is defined as the extent to which there is a predisposition among chain members toward viewing the supply chain as an integrated entity and on satisfying chain needs in an integrated way” (Hult, Ketchen, Adams, & Mena, 2008, p. 527). Such information might include supplier capabilities, capacities, constraints, risks, strategic plans, and costs. Using the same processes as market orientation—information collection, dissemination, and response—a buying firm can improve its performance (customer performance, financial performance, internal process performance, and innovation and learning performance) as was shown in a study of 129 firms by Hult et al. (2008). Essentially, this is what the Government does with market research. We are optimizing the need definition by finding out what is out in the market, instead of defining needs based on what we have done in the past (see the discussion of the MR/MI model in the following section). We have an opportunity to improve performance by collecting the market research, disseminating it within the agency, and making appropriate decisions by acting upon the available information. All of this presupposes that we collect the right information and make wise decisions from it.



Market Research Dimensions

MR/MI operates within and through three distinct dimensions: the Need, the Environment, and the Plan.

1. Need (FAR 10.002(a))

The Need is the definition of the Government's requirement and is sought and found in three particular ways, as follows:

- a. What we think we need based on previous buying history or limited explanation.
- b. What we actually need manifested as the final evolving requirement through the long Government acquisition process.
- c. The optimal choice we are unaware of or what we could have asked for if we understood our environmental dimension.

2. Environment (FAR 10.002 (b–d))

The Environment is the business and “battlespace” in which we operate and is made up of many factors. Some of these factors include the industry, Area of Responsibility (AOR), political arena, industry analysis, capabilities, standards, and risks. The Environment also consists of small socio-economic issues and policies as well as external considerations and risks (legislation, war and peace, geography, etc.).

3. Plan (FAR 10.002 (e))

The Plan is the Government's strategy for how it satisfies its needs within its environment, including, but not limited to the following:

- a. Acquisition Strategy/Plan
- b. Source Selection Plan
- c. Small Business (SB) Plan



Current MR/MI Model

The current model, as perceived by our research and experience, is a standard step process that involves the Government doing the following:

Step 1: Determine the Need that is pushed by the user, checked against current supplies and previous purchases, and evolves over time (amendments/changes).

Step 2: Assess the Environment by reviewing vendor lists, seeing where our funds are spent, posting Requests for Information (RFI), consulting the Small Business Administration (SBA), and so forth.

Step 3: Develop the Plan, such as acquisition plans, by holding Acquisition Strategy Panels (ASP), creating evaluation and incentive criteria, determining contract types/structures, strategizing with the SBA, producing Government estimates and performance plans (Quality Assurance Surveillance Plan [QASP]), and making option determinations.

Problems with Current Model

The current model falls into the category of “too little, too late.” With this current approach, we take a reactionary approach and let the Need happen before optimizing the potential solution. Further, we follow a step-based approach in a business environment that is not linear. It is global, multi-dimensional and evolving faster than we can react. We decide the Need before we know our Environment, and the Need starts to change as we develop our Plan but we do not reassess the Environment. When we use immediate Needs to drive MR/MI, we will never have time to reassess. Finally, the current model does not meet the intent of FAR 10.001(a) to conduct market research on an “on-going” basis. Current practice is to conduct market research as an initial step to acquisition planning that is done at the beginning and not monitored after the fact.



Proposed Model of This Guide

The proposed model recognizes three distinct dimensions to be assessed simultaneously and continuously, while maintaining a high level of education and training (E&T). The Need dimension involves having early talks with management, leadership, approving offices—as with an early strategy and issues session (ESIS)—and functional users 12–24 months prior to an anticipated award. Further, the Need dimension involves maintaining a robust spend analysis of current contract portfolios with informed projections for future portfolios, using tools such as a purchasing portfolio model (PPM) to segment spend by type (Kraljic, 1983). It further involves understanding agency tendencies and constraints using a SWOT analysis, value curves, and spectragram analysis. These tools are explained throughout this guide.

The Environment dimension involves holding industry days and issuing RFIs periodically to monitor new entrants, market trends (are markets failing, growing, or merging), bundling/consolidation issues, and possibilities. You may also consider Porter’s five forces analysis (Porter, 1979), a power-matrix analysis (Cox, 2001), and a risk analysis (cost, technology, performance), and also understand market cost drivers while assessing regulation, standards, and commercial practice. Finally, the Environment dimension must consider monitoring external issues such as national political trends, current AORs, legal and regulatory developments, and so forth.

The new model introduces the concept of an education and training (E&T) cycle, the idea being that all MR/MI collected during the continual processes over time are shaped by previous and current E&T and must shape future MR/MI efforts and E&T. The proposed model is displayed in Figure 4.





Figure 4. Proposed Model of Perpetual Market Research

Advantages of the Proposed Model

Under the proposed model, the MR/MI process is a synergistic process that combines all dimensions, and assesses how to optimize needs in a changing environment. This proposed model directs our focus to the changing environment and being proactive instead of focusing on reactive, short-term needs.

Methodology of Guide

This guide was developed through the collective efforts of 24 Naval Postgraduate School MBA students, 22 of whom are Air Force contracting officers with three to eight years of experience in systems and/or operational contracting, holding Defense Acquisition Workforce Improvement Act (DAWIA) certifications in contracting, ranging from Level I to Level III, with the majority being Level II and III.



Initially, these students reviewed literature in the areas of current and past market research guides and policy; the FAR; MR/MI methods from the Enterprise Sourcing Group; MR/MI training developed by the University of Tennessee, Defense Acquisition University (DAU), and the RAND Corporation; and dominant theories of industry analysis (e.g., Porter's five forces, Cox Power Matrix, etc.). The students compiled attribute maps from both the customer's and contracting professional's standpoints to identify *basics*, *discriminators*, and *energizers* that were both appealing and non-appealing in terms of format and utility from current MR/MI guides. This information was used to create the format and direct the content of this guide. The students then developed written literature reviews with a focus on the following areas:

1. The purpose and theory of this guide
2. The methodology of this guide
3. Explaining how to define needs
4. Theories of industry analysis
5. Determining sources
6. Determining industry standards
7. Determining contractor capabilities
8. Connecting MR/MI results to acquisition strategy decisions
9. Connecting MR/MI results with the Small Business strategy

These reviews produced the resultant chapters that have been segregated into the three distinct dimensions of our proposed MR/MI model to create the "Parts" of this guide. All sources for MR/MI information—to include industry reports, risk reports, trade associations, etc.—were compiled for major industry



categories (as listed by the General Services Administration [GSA]) to produce the general outline of this guide.

Following the development of the first draft, professors in the fields of strategic sourcing, contingency contracting, defense systems contracting, and services contracting conducted peer reviews. Members of the Acquisition Centers of Excellence (ACE), Wright-Patterson Air Force Base, OH, and market intelligence experts at the Air Force Program Executive Office for Mission Support (AFPEO/CM) office completed additional peer reviews. The results of these peer reviews and suggested comments were aggregated, assessed, and incorporated into the final draft of this guide.

This guide uses the example of facilities management services throughout the following chapters to explain MR/MI theory, methods, and practical how-to scenarios. The information provided for Facilities Management is at times factual and at other times notional. This category was chosen because it involves services acquisition, contract consolidation, small business considerations, and the potential for a high degree of acquisition planning variability.

Organization of Guide

This guide is organized into three distinct parts that follow our theoretical model for Market Research with references to the notional procurement of Facilities Management. In Part I, the Need addresses how requirements are defined and describes the market orientation considerations needed to properly define these needs. In Part II, the Environment addresses how to determine sources and contractor capabilities, and how to plan for working with small businesses. In Part III, the Plan provides an example of a market research report for our notional Facilities Management requirement. This section has comment bars to the right of the example report to aid the reader in linking the market intelligence gathered with important acquisition decisions, documentation, and strategies.



This guide concludes and provides recommendations for the use of market research. There are six appendices to the guide, as follows:

Appendix A: MR/MI Source Lists (links to websites, journals, and social networks to aid in market research)

Appendix B: Methods of Industry Analysis

Appendix C: Spend Analysis Example

Appendix D: RFI Example

Appendix E: Industry Analysis Example for Facilities Management

Appendix F: Example of Market Research Report from the Air Force Enterprise Sourcing Group

The following chapter will discuss the Need dimension and how we define it in the Government.



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Part I: The Need

Need Definition

To initiate the acquisition process, an agency establishes a need to bridge the gap between the current state and the desired state. The need, as defined by NASA (1998), “is a narrative description of items or services the agency requires, expressed as general statements of the items’/service intended use in terms of function to be performed, performance requirement, essential physical characteristics, and, if necessary, the environments in which they will operate” (p. 4). The need is the definition of the Government’s requirement and is sought and found in three particular ways, as follows:

1. What we think we need based on previous buying history or limited explanation.
2. What we actually need manifested as the final evolved requirement from the Government acquisition process.
3. The optimal choice of which we are unaware – or, what we could have asked for if we understood our environmental dimension.

To help an agency define their need adequately, first ask the following two questions:

- 1. What is the current state; how is it affecting the mission?** As an example, one might think about the Facility Management. Answering this question will help defining the extent/strength of the needs by constituting one side of the gap between the current state and the desired state.



- 2. What is the desired state?** Answer to this question constitutes the other end of the gap which is the distance from the current state to the desired state.

The following is an example of a Facility Management case (for simplicity concerns, our example is a new building instead of an already-operating facility):



Current state: A newly built/acquired, unoccupied building

Desired state: A building that provides a safe, healthy, and secure environment for its intended occupants in a cost effective way

Gap: Professional facility management

To find the best solution to meet the agency's desired state, the agency must present adequate information to the contracting officer about the intended purpose to help facilitate the market research process. The FAR (2011) states, "acquisitions begin with a description of the Government's needs stated in terms sufficient to allow conduct of market research" [10.002(a)].

The need statement contains information that gives a comprehensive picture of the environment, the current state, and the performance and physical characteristics to achieve the desired state. Supplier involvement and collaboration during market research and intelligence collection increases awareness of the contractor's capabilities. Sharing information with key suppliers about the customers' needs "aligns suppliers with final customers' requirements ... strengthens trust between supplier and buyer ... and enables innovative solutions that may not have otherwise been identified" (Ragatz, Handfield, & Scannell, 1997, pp. 197–198). Supplier involvement was a key component of the Air Force's Information Technology Commodity Council. It allowed the Air Force and suppliers to establish synchronized technology plans that "curbed wasted effort and allowed the commodity team to leverage supplier innovation" (Cortese, Shelby, & Strobel, 2005, p. 65). "If [the Government] and firms cannot communicate real-time information on such fundamental activities as production cycles, customer demand requirements, bill of materials, and shipments, it will be difficult to form supplier alliances" (Zsidisin & Ellram, 2001). Market trends and new legislation are other potential inputs to a comprehensive assessment. Acquisition personnel need to build this competency to collect market intelligence, disseminate information, and use it effectively.



Additionally, it is imperative that the requirement address which characteristics are essential (mandatory) and which are desirable (targets or objectives). Identifying the characteristics as essential or desirable provides latitude to select the optimum acquisition strategy that represents the best value for the Government (NASA, 1998). Following the facility management example, mandatory performance characteristics could be as follows:

1. Ensures proper operation of all aspects of a building to create an optimal, safe, and cost-effective environment for the occupants of the facility to function
2. Meets standards set by local, state, and national laws and agencies, such as the Occupational Safety and Health Administration (OSHA), the Environmental Protection Agency (EPA), and EN 54
3. Provides the following services for the facility: Health and Safety, Fire Safety, Security, Maintenance Systems, Periodic Statutory Testing, and Inspections

There is little or no deviation from mandatory characteristics. Due to the criticality of mandatory characteristics, they cannot be altered or compromised during the acquisition process. However, the desired characteristics are flexible during the acquisition process. These flexibilities enable best value trade-offs between efficiency and effectiveness. Examples of the agency's desirable performance characteristics for facility management include the following:

- Holds the energy and water consumption at a minimum level
- Ensures waste minimization/reduction
- Compliance with operation standards like ANSI/ASHRAE/USGBC/IES Standard 189.1-2009 within the IGCC (International Green Construction Code)
- Participation in Energy Star program



- Use of alternative fuels/renewable energy
- Regular update of the technology used and continuous education of the users of it
- A one-stop call center for all facilities management

After the agency identifies the need, both market research and requirements analysis are used to create a well-defined requirements document.

As stated by the AFLMA (1997) Market Research/Analysis Guide,

Through market research, we have identified the product attributes, contractor production and distribution capabilities available in the marketplace to meet the user's needs, as well as commercial business practices. We then use requirements analysis to establish the key characteristics a yet to be identified item or service must have to meet the user's need. (p. 12)

Market research is currently an iterative process where the flow of information between market research and requirement analysis influences the type of requirements document used during the acquisition. However, the effects of continuous market research, as shown in this guide's proposed MR/MI Model, improve the efficiency and effectiveness of fulfilling the customer's need. Regardless of which model is employed, it is important that the requirement minimizes the essential characteristics to promote maximum competition.

FAR (2011) Part 11 establishes an order of precedence in creating requirements documents. The order of precedence established in FAR 11.101(a) is as follows:

1. Documents mandated for use by law
2. Performance-oriented documents (e.g., a PWS or SOO)
3. Detailed design-oriented documents



4. Standards, specifications, and related publications issued by the Government outside the Defense or Federal series for the non-repetitive acquisition of items

When establishing a requirements document, the agency must take laws, regulations, and standards into consideration. Agencies should first ensure that there are no statutory/regulatory prohibitions affecting the requirement. If not bounded by statute or regulation, a performance-based requirement document is the preferred choice for acquiring the agency's need. Performance-based documents tell the contractor the desired state; the contractor then provides the best avenue to achieve the desired state. At the opposite end of the spectrum is the detail-based document. A detail-based document gives exact specification to achieve the desired state. This is required when specific detail such as color, size, material, and so forth, are required to meet the need. The Government provides little or no latitude to deviate from the specifications (AFLMA, 1997). An example of requirement documents in the Air Force comes from the AFPEO/CM office which uses Requirements Approval Documents (RAD) for the Service Acquisition Executive (SAE) reviews that are held within 12–24 months of re-acquisition to determine whether the need is valid, has changed, or is obsolete. They also use an Early Strategy and Issues Session (ESIS) to allow program managers, contracting officers, and other stakeholders to discuss the requirement and the method by which it will be acquired.

The Joint Capabilities Integration and Development System (JCIDS) is another formal means of defining requirements and

contains procedures and instructions regarding the staffing and development of initial capabilities documents (ICDs), capability development documents (CDDs), capability production documents (CPDs), and joint doctrine, organization, training, materiel, leadership and education, personnel, and facilities (DOTMLPF) change recommendations (DCRs). (JCIDS Manual, 2011)



The JCIDS process starts with the Capabilities-Based Assessment (CBA) and “identifies capability needs and gaps and recommends non-materiel or materiel approaches to address gaps” (JCIDS Manual, 2011). More information can be found in the JCIDS Manual or in DoDI 5000.02 (USD[AT&L], 2002). Understanding market orientation aids in better defining these requirements.

Market Orientation

According to Kohli & Jaworski (1990), market orientation is defined as the organization-wide generation of market intelligence pertaining to current and future customer needs, dissemination of the intelligence across internal departments, and organization-wide responsiveness to it. Findings suggest that a market orientation entails the following: 1) one or more departments engaging in activities geared toward developing an understanding of customers’ current and future needs and the factors affecting them, 2) sharing of this understanding across internal departments, and 3) the various departments engaging in activities designed to meet select customer needs. Firms that do this well are able to increase innovation and firm performance (Kirca et al., 2005).

Customer focus is the center element of market orientation which involves taking actions based on market intelligence. Market intelligence is a broader concept in that it includes consideration of two things: 1) exogenous market factors that affect customer needs and preferences, and 2) current as well as future needs of customers. This concept urges organizations to anticipate needs of customers and to initiate steps to meet them in the short, medium, and long term. The generation of market intelligence does not stop at obtaining customers’ verbalized needs and preferences, but involves careful analysis and subsequent interpretation of the exogenous forces that impinge on customer needs and preferences (e.g., Government regulations, competition, technology, and changing conditions). The responsiveness to market intelligence takes the form of selecting target markets, designing and offering new products/services



that cater to their current and anticipated needs, and producing, distributing, and promoting the products in a way that elicits favorable end-customer response.

The customer cannot always envision how his or her needs can be met. Some firms also adopt a technology orientation while others adopt a competitor orientation in which they copy successful firms in the same industry. The DoD is not unlike commercial industry in this respect. We must monitor the capabilities of foreign militaries in order to maintain our competitive advantage. We also must remain on the cutting edge of technology in order to develop weapons and tools that maintain our competitive advantage.

The following part and chapters will discuss the environmental dimension to include the rationale and methods for analyzing an industry, determining sources, identifying industry standards, understanding contractor capabilities, and addressing small business concerns.



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Part II: The Environment

Determining Sources

As a minimum, it is imperative to identify capable sources of supply to promote competitive best value acquisitions. These tools and best practices may include a formal survey of the marketplace which yields the following:

- data on existing market sectors to identify potential sources of supply,
- commercial product and market characteristics,
- commercial item standards and best practices,
- emerging technologies, vendor capabilities, and non-developmental item solutions, and
- Government-leveraged opportunities so that informed acquisition strategy decisions can be accomplished.

Requests for information (RFI) are typically used during the project planning phase in cases in which a buyer cannot clearly identify product requirements, specifications, and purchase options. It is primarily used to gather information to help make a decision on the steps to take next. In addition to gathering basic information, an RFI is often used as a notice sent to a broad base of potential suppliers for the purpose of developing strategy and preparing for an request for proposals (RFP) or request for quotation (RFQ).

The results of market research will conclude the following: (1) there are sufficient commercial or non-developmental items in the marketplace, and enough sources are available to issue a procurement under the rules of FAR Part 12, Acquisition of Commercial Items (see Appendix B); or (2) the item and sources are not commercial in nature, and a procurement must be issued under other parts of the FAR. If the results of the market research are inconclusive, the agency must make an attempt to review and revise their requirement so that



commercial items could satisfy their needs. If that cannot be done, then the procurement cannot be issued under commercial item rules.

Classifications of Market Research

1. Surveillance (An ongoing function that does not focus on a specific purchase request but a broad category of supplies and services). This can be accomplished by reviewing the following:
 - trade journals, manufacturer catalogs, new product announcements, and industrial shows/conferences;
 - unsolicited proposals, on-line market information, social media groups, and professional associations; and
 - blogs and press.
2. Investigation (Determine, with a high degree of confidence, what technology or products can satisfy user needs). Investigation narrows the scope of research to a specific purchase request. This can be accomplished by reviewing the following:
 - on-line product information,
 - catalog systems,
 - professional associations,
 - on-site inspections,
 - requests for information,
 - test reports, and
 - company's commercial agreements.

Extent of Market Research

The extent of market research will vary depending on factors such as urgency, the estimated dollar value of the procurement, complexity, risk, past experience, the amount of information already available, time available,



resources available (people and funds), and the opportunity for improved efficiency and/or effectiveness. The bottom line is to equate the amount of research to the level of your procurement. The extent of market research will vary depending on the following:

Urgency: A true example of urgency would be a need for natural disaster relief that forces expediting of market research.

Estimated Dollar Value: Higher value procurements may or may not require more market research in reality. Current acquisition regulations place higher importance on higher estimated dollar values. Risk is a product of both the impact of an action happening (e.g., costs) and the probability that it will happen. There is a certain degree of total risk associated with higher values, but dollar value alone does not account for the probability portion of risk and should not drive all MR decisions.

Complexity: Higher complex procurements generally require more market research.

Total Risk: Limited suppliers and criticality to national defense may increase risk. More market research will be necessary to identify the risks and to develop effective risk management strategies.

Past Experience: Requiring activities with a great deal of experience in a particular field may be able to expedite market research.

Continuing surveillance of commodity and service markets can provide agencies with current knowledge of changes, advances, and trends in the technology and products that are of specific interest to the agencies. The development of a marketplace commodity database will significantly support agency determinations regarding the use of commercial items in subsequent acquisitions. After determining the factors of market research, the agency will need to acquire information on sources of market research. Research



organizations that analyze industries such as the Sourcing Interest Group (SIG) and IBISWorld offer valuable information about the market to aid in defining requirements and eventually determining sources.

We can find suppliers by looking at the North American Industry Classification System (NAICS) classification. Based on the NAICS classification, contracting officers can focus their sources sought via the Federal Business Opportunities (FedBizOpps) website (fbo.gov) to request specific information from prospective offerors. Upon determining the specific information sought, the agency will need to acquire information using an RFI. An example of an RFI for Facilities Management can be found in Appendix D. This type of information will be used to conduct an industry analysis (See Appendix E for an example) that feeds acquisition planning and management decisions in the future (see the example MR report in Part III of this guide).

Determining Contractor Capabilities

We consider contractor capability to mean the ability of the market to meet the mission needs of our customer(s). The DoD Market Research Handbook (1997) states, “Supplier capability includes the number of suppliers in the market and production capacity. For some items, questions about the producer’s capability to meet surge and mobilization demands need to be included.” (p. 15) Understanding the capabilities of available suppliers allows the contracting officer to make informed decisions to mitigate performance risk by tailoring the acquisition strategy. Different mitigation strategies may include adjusting the number of multiple awardees, altering the type of contract, using incentives, and so forth. In addition, the FAR mandates that contractor responsibility be determined prior to contract award. Part of being responsible means that the procuring agency is confident that the contractor can meet the contract requirements, thus having the capability to perform. Determining a contractor’s responsibility should not be done in the early phases of market research, but the information gathered during market research, as well as methods employed in



gathering that data, can be utilized prior to award when making a determination of responsibility. Items to observe may include “evaluating producers’ processes, production methods, and production control procedures” (DoD, 1997, p. 19). Although there is no specific way to determine capability, there are numerous sources and processes available, that, when combined, aid the contracting officer in forming their judgment of contractor capability.

Types Of Questions You Are Trying To Answer to Determine Contractor Capability

1. Describe briefly the capabilities of your company and the nature of the goods and/or services you provide. Include a description of your staff composition and management structure.
2. Describe your company's past experience on previous projects similar in complexity to this requirement. Include contract numbers, a brief description of the work performed, period of performance, agency/organization supported, and individual point of contact (contracting officer or program manager).
3. Describe your company's capabilities and experience in generating technical data, engineering drawings and manuals (may not be applicable for facilities management but can be used in certain acquisitions such as major defense acquisition program [MDAP]). Identify the software programs that are utilized to generate these data products and the formats available for delivered items.
4. What quality assurance processes and test qualification practices does your company employ? Please provide a description of your quality program (ISO 9000, QS-9000, EIA-599, etc.).
5. Describe your capabilities and experience in managing this type of project, including subcontractor involvement. Include any experience in project planning, work breakdown structures, resource allocations, schedule tracking, risk analysis, and cost management.
6. Describe your capabilities and experience in developing or modifying procedures for repair or maintenance of equipment. Include associated upgrade of technical orders and preparation of new technical orders.



7. Describe your configuration management processes and how you identify and resolve parts obsolescence and diminishing manufacturing sources problems. (The University of Tennessee, 2009)
8. For services, it is advisable to inquire about how the supplier attracts and retains key talent (i.e., critical, skilled labor) and how it replaces key personnel when needed.

Insight into contractor capability is required at three particular times throughout an acquisition: during acquisition planning, prior to contract award, and during post-award administration.

Contractor Capability During Acquisition Planning

Determining NAICS Code: After gaining a thorough understanding of the requirement, the next step is identifying the correct NAICS code. Using the correct NAICS code (as well as Product Service Codes [PSCs] and Federal Supply Classifications [FSCs]) is essential so that accurate data is available for future spend analyses and market research. One way to accomplish this is to use the drill-down tables on the NAICS website. The tables allow you to start narrowing down the NAICS code by providing a more specific description as you progress through different tables. We will use the Facilities Maintenance requirement as an example with screenshots from the NAICS website.

1. Go to the NAICS website: <http://www.census.gov/eos/www/naics/>
2. Select the NAICS 2007 link.



U.S. Census Bureau

North American Industry Classification System

You are here: [Census.gov](#) > [Business & Industry](#) > NAICS

[Main](#)
[History](#)
[Development Partners](#)
[Federal Register Notices](#)
[NAPCS](#)
[FAQs](#)

NAICS Search:

Enter keyword or 2-6 digit code

[2007 NAICS Search](#)

Enter keyword or 2-6 digit code

[2002 NAICS Search](#)

Downloads/Reference Files/Tools

- [2007 NAICS](#)
- [2002 NAICS](#)
- [Concordances](#)
- [NAICS Update Process](#)
- [Fact Sheet \[PDF, 37KB\]](#)

Introduction

The North American Industry Classification System (NAICS) is the standard used by establishments for the purpose of collecting, analyzing, and publishing statistical data.

NAICS was developed under the auspices of the Office of Management and Budget (OMB), the U.S. Economic Census, Canada's [Statistique Canada](#), and Mexico's [Instituto Nacional de Estadística y Geografía](#), to allow for consistency among the North American countries.

This official U.S. Government Web site provides the latest information on plans for NAICS reference files and tools.

The official 2007 U.S. NAICS Manual, includes definitions for each industry, background, and 2007, and a comprehensive index. The official 2007 U.S. NAICS Manual is available through the Technical Information Service (NTIS) at (800) 553-6847 or (703) 605-6000, or through the NTIS Web site. Manual are available.

Additional information on the background and development of NAICS is available in the NAICS Manual.

3. Once the “2007 NAICS” link is selected, the first drill-down table will appear.

2007 NAICS	
The following table provides detailed information on the structure of NAICS. Also included, on this page, are links to the 2002 NAICS Manual.	
Sector	Description
11	Agriculture, Forestry, Fishing and Hunting
21	Mining, Quarrying, and Oil and Gas Extraction
22	Utilities
23	Construction
31-33	Manufacturing
42	Wholesale Trade
44-45	Retail Trade
48-49	Transportation and Warehousing
51	Information
52	Finance and Insurance
53	Real Estate and Rental and Leasing
54	Professional, Scientific, and Technical Services
55	Management of Companies and Enterprises
56	Administrative and Support and Waste Management and Remediation Services
61	Educational Services
62	Health Care and Social Assistance
71	Arts, Entertainment, and Recreation
72	Accommodation and Food Services
81	Other Services (except Public Administration)
92	Public Administration

Sector 56 is chosen because this best describes our requirement. On the next screen, the requirement is further narrowed to the appropriate NAICS code, 561210.



2007 NAICS Definition

Search results for: 56

Number of records found: 87

[56](#) Administrative and Support and Waste Management and Remediation Services

[561](#) Administrative and Support Services

[5611](#) Office Administrative Services

[56111](#) Office Administrative Services

[561110](#) Office Administrative Services

[5612](#) Facilities Support Services

[56121](#) Facilities Support Services

[561210](#) Facilities Support Services

[5613](#) Employment Services

[56131](#) Employment Placement Agencies and Executive Search Services

[561311](#) Employment Placement Agencies

Determining availability of sources: Industry publications, periodicals, vendor associations, trade journals, marketing organizations, trade shows—any or all of these might be sources at which to direct your market research. Once you start looking, you will probably be surprised at how much information is out there. You might ask vendors to submit copies of their standard commercial agreements, ask associations or industry groups for sample agreements, or even schedule a public meeting and ask interested industry folks for their input. Additionally, the Institute for Supply Management (ISM) publishes a compilation of contract purchase order terms and conditions.

The following are the types of information found at each source:

1. Journals: Source for industry news and trends; Source to identify new vendors or vendors facing problems
2. Professional Associations: Academic focus on trends; Valuable tool for white papers; Valuable tool for networking to get industry specific details
3. Trade Shows: Good place to view the latest technology or trends; Most trade shows have best practice seminars; Identify potential sources / partners (The University of Tennessee, 2009)



For our Facilities Management example, the SIG market report identifies the top suppliers for these services (see Figure 4).

SUPPLIER COMMUNITY

TOP SUPPLIERS

The supplier list below was created using research sources, trade associations and company websites. The focus is on both national and international suppliers providing services in the U.S. Revenues of the suppliers can vary with volatile and cyclical property markets and increasing capital exposure, making it important for property managers to have control and flexibility over cost structures.

Company	Primary Focus	Headquarter Location	Employees
	IFM	New York, NY	91,000
	Real estate services, IFM	Los Angeles, CA	29,000
	Real estate services, IFM	London, U.K	759
	Foodservice, IFM	Denham, U.K.	386,000
	Real estate services, IFM	New York, NY	12,035
	Facilities maintenance services, IFM	Monrovia, CA	N/A
	Mechanical and Electrical Services, IFM	Norwalk, CT	25,000
	Engineering services, IFM	Irvine, TX	24,943
	Real estate services, IFM	Santa Ana, CA	5,000
	Facilities maintenance services, IFM	Copenhagen, Denmark	N/A
	Control products and IFM	Milwaukee, WI	130,000
	Real estate services, IFM	Chicago, IL	36,600
	Foodservice, IFM	Issy-les-Moulineaux, France	380,000
	Facilities maintenance services, IFM	New York, NY	10,000
	Real estate services, IFM	Dallas, TX	6,000
	Facilities maintenance services, IFM	Sydney, Australia	18,000
	Engineering services, IFM	San Francisco, CA	41,000
	Facilities maintenance services, IFM	Boise, ID	N/A
	Waste management, IFM	Paris, France	312,590

Figure 5. Top Suppliers in the Supplier Community
(Sourcing Interest Group, 2011)

Small Business Status: Since small business provides numerous benefits to the Government and industrial base, it is critical (and required) to consider, and, when possible, maximize small business participation in every acquisition. Determining a contractor's small business status, along with total small businesses available for a particular NAICS, can be accomplished through the Central Contractor Registration online database.

To determine the total number of small businesses by NAICS, follow these steps:

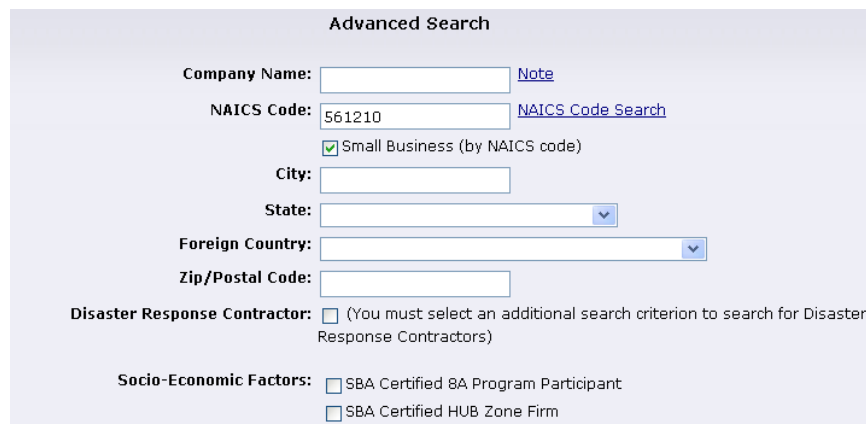
1. Go to the CCR website: <https://www.bpn.gov/ccr/>



2. Select the “CCR Search” function.



3. The search function allows you to search by numerous descriptors, with the most common being NAICS, Company Name, DUNS number, and CAGE code. For our Facilities Management example, we will search for all small businesses (check box beneath NAICS) listed with NAICS 561210, Facilities Support Services (small business size standard and NAICS lookup will be discussed later in this chapter).



The results will be displayed as follows:

[Search](#) Results Detail

CCR Search Results

9910 records found for NAICS Code: 561210 (Small Business)

[Printable Version](#) [Save Records](#)
☒ Physical Address
☐ Mailing Address

FOR OFFICIAL USE ONLY

INFO	DUNS	CAGE	Company Name	City	State	Country
Detail	001018535	1S3F2	GOLDEN, WEISE AND ASSOCIATES, LLC	GREEN COVE SPRINGS	FL	USA
Detail	001038103	1R8D5	LS TECHNOLOGIES, LLC	FAIRFAX	VA	USA
Detail	001257588	1VLH6	YAHSGS LLC	RICHLAND	WA	USA
Detail	001377584	44RK9	PRIMEX TECHNOLOGY, INC.	MESA	AZ	USA
Detail	001381016	6CHN4	U.S. SEDAN SERVICE, INC.	DULLES	VA	USA
Detail	001399299	4HPW8	TJT CONSTRUCTION LLC	METAIRIE	LA	USA

This data provides very important small business information. For example, this shows that there are currently 9,910 vendors registered in CCR that perform the Facilities Support Services identified by NAICS 561210. This market research is just one piece that helps identify whether the requirement can be completed by a small business or not.

To determine small business status of a specific company, follow these steps:

1. Follow steps in the previous section through Step 3. At Step 3, enter the company name or DUNS to search the database.
2. Once the company is located, a page containing all of the company's CCR data will be displayed.



**Table 1. Small Business Status of A Specific Contractor
Under NAICS 561210**

North American Industry Classification System (NAICS)			
The small business size status is derived from the receipts, number of employees, assets, barrels of oil, and/or megawatt hours entered by the vendor during the registration process.			
NAICS Code	Description	Small Business	Emerging Small Business
517110	Wired Telecommunications Carriers	Yes	No
518210	Data Processing, Hosting, and Related Services	Yes	No
541330	Engineering Services General \$4.5m small business size standard: [No] Special \$18.5m size standard for Marine Engineering and Naval Architecture: [No] Special \$27m size standard for Military and Aerospace Equipment and Military Weapons : [Yes] Special \$27m size standard for Contracts and Subcontracts for Engineering Services Awarded Under the National Energy Policy Act of 1992: [Yes]	See Description	No
541511	Custom Computer Programming Services	Yes	No
541512	Computer Systems Design Services	Yes	No
541513	Computer Facilities Management Services	Yes	No
541519	Other Computer Related Services	Yes	No
541618	Other Management Consulting Services	No	No
541690	Other Scientific and Technical Consulting Services	No	No
561210	Facilities Support Services	Yes	No
811210	Communication Equipment Repair and Maintenance	No	No

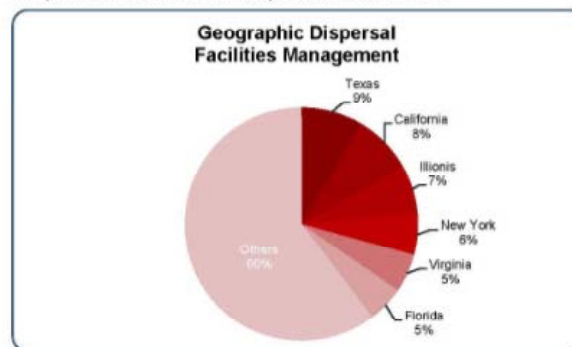
Table 1 shows that the company is listed as a small business under NAICS 561210. However, if the requirement was for a different NAICS, such as 541618 (Other Management Consulting Services), the company is not listed as a small business.

Geographic considerations: When determining contractor capability, it is important to consider geographic data. If contractors within a particular industry are clustered into certain areas, it may be beneficial to take this into account when structuring the number of contracts to be awarded. Although geographic clusters do not always indicate the need to regionalize a contract, it should at least be considered. Figure 6 shows the geographic dispersion of Facilities Management businesses. As shown by the graph, it appears that contractors for this requirement are spread across the U.S., with some concentration in the larger states. This would lower some of the risk for the acquisition because it is reasonable to expect that multiple contractors could perform the work in most locations, resulting in competition for the award.



GEOGRAPHIC DISPERSAL

Facilities management companies are generally spread across major U.S. business centers. According to the U.S. Census Bureau, Texas has the largest share of facilities management companies in the U.S. followed by California and Illinois.



Source: U.S. Census Bureau

November 2010

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Figure 6. Geographic Dispersion of Facilities Management Businesses
(Sourcing Interest Group, 2011)

Contractor Capability Prior To Contract Award

Determining contractor responsibility:

FAR 9.103

- (a) Purchases shall be made from, and contracts shall be awarded to, responsible prospective contractors only.
- (b) No purchase or award shall be made unless the contracting officer makes an affirmative determination of responsibility. In the absence of information clearly indicating that the prospective contractor is responsible, the contracting officer shall make a determination of nonresponsibility. If the prospective contractor is a small business concern, the contracting officer shall comply with subpart 19.6, Certificates of Competency and Determinations of Responsibility. (If Section 8(a) of the Small Business Act (15 U.S.C. 637) applies, see Subpart 19.8.)

Contractor responsibility is necessary to ensure satisfactory contract performance while maintaining responsible use of taxpayer dollars. To meet this requirement, contracting officers must be confident that the contractor can meet the requirements of the contract. However, FAR 10.001(b) states, “(b) When



conducting market research, agencies should not request potential sources to submit more than the minimum information necessary.” This means that although you must determine contractor responsibility, there is also a requirement to not put undue hardships on the potential contractor. FAR 9.104-1 provides the following areas that must be considered in order to be determined responsible:

“To be determined responsible, a prospective contractor must—

(a) Have adequate financial resources to perform the contract, or the ability to obtain them.” (FAR, 2011)

In order to determine whether the prospective contractor has adequate financial resources, a questionnaire can be sent to the contractor’s banking institution. The example shown in Figure 7 is generally acceptable for purchases that are relatively non-complex.



FINANCIAL INFORMATION

Contractor Name: _____
Type of Service: _____

Contractor's Financial Institution: _____

Contractor's Point of Contact: _____

Financial Institution's Phone No. _____

1. How long has the contractor been with the institution? _____
2. What is the contractor's current status with the institution? (e.g., poor, fair, good, excellent, outstanding) _____. Any additional comments? _____

3. Has the company's accounting practices been satisfactory? _____. If no, why? _____

4. How many accounts and what types of accounts does the company have with the institution? _____
a. _____
b. _____
c. _____
5. What is the company's current operational balance? (e.g., low, moderate, or high--five, six figure, etc.) _____

6. Does the contractor have a line of credit? _____ Low, moderate, or high--five, six figure, etc.? _____

7. Based on the contractor's financial history, current status, and the magnitude of this project (six figure), how do you feel the contractor will be able to perform his financial obligation? _____

Signature

Title

Date

Figure 7. Questionnaire for Contractor's Banking Institution

For contracts that are more complex, a review of past financial records, along with an audit by the DCAA and/or a preaward survey by the DCMA, can provide the contracting officer with pertinent information to determine



responsibility. Often, for a quick review, many publicly traded companies post their historical annual reports on their websites. For publicly traded companies, the Securities and Exchange Commission's EDGAR database also provides financial reports (e.g., annual 10K reports). While the purpose of this guide is not to explain how to conduct a financial viability analysis, it is important to cover the market information needed to perform such an analysis. For a more in depth discussion, readers are referred to reputable procurement texts such as *Purchasing and Supply Chain Management*, 4th ed. (Monczka et al., 2009). In assessing financial viability, the contracting officer should focus on defensive ratios such as liquidity ratios (e.g., current ratio and quick ratio) and debt ratios (e.g., debt-to-equity, current debt-to-equity, and interest coverage). A static picture is usually not sufficient; examine several years of data for trends. The contracting officer should also compare ratios of a firm to the industry averages since some industries differ structurally (e.g., some industries are inherently more leveraged than others). Firms' financial data (e.g., balance sheets, income statements, and cash flow statements) and industry averages can be found from Hoovers. Firms' financials can also be used to predict bankruptcy within the next 12 months by calculating Z-scores such as the Altman and Springate Z-scores.

In the example report, we are given the general industry financial data, as shown in Figure 7. This information can be used to determine a particular company's market share and to benchmark its performance against the industry.



Company	Market Cap (USD billion)	Total Debt to Asset FY 2009	Revenue FY 2009 (USD million)	Revenue FY 2008 (USD million)	Net Profit Margin FY 2009	Operating Margin FY 2009
	1.3	11.3	3,482	3,624		
	6.5	59.7	4,166	5,129		
	N/A	N/A	90,658	144,780		
	N/A	N/A	20,869	22,575		
	1.8	6.6	5,548	6,785		
	10	1.8	21,990	22,325		
	0.08	35	505	596		
	25	13.2	34,305	28,497		
	3.6	6.4	2,841	2,698		
	10.1	25.8	19,875	20,408		
	3.5	11.7	9,249	10,086		
	15.4	41.4	48,186	52,622		

Figure 8. General Industry Financial Data
(Sourcing Interest Group, 2011)

Continuing with FAR 9.104-1, in order to be determined responsible, contractors must:

“(b) Be able to comply with the required or proposed delivery or performance schedule, taking into consideration all existing commercial and Governmental business commitments.” (FAR,2011)

Contracting personnel can search the EZ Query database (<http://ezquery.socom.mil/>) to view current contracts a prospective contractor may have. Besides EZ Query, searching other databases such as FedBizOpps may also provide the data required.

Contractors also must “(c) Have a satisfactory performance record (see 9.104-3(b) and Subpart 42.15). A prospective contractor shall not be determined responsible or nonresponsible solely on the basis of a lack of relevant performance history, except as provided in 9.104-2.” (FAR, 2011)

Past performance is a key indicator of future performance. It can be obtained through the Past Performance Information Retrieval System (PPIRS), the Contractor Performance Assessment Reporting System (CPARS), or the Federal Awardee Performance and Integrity Information System (FAPIS). Past



performance information might also be found from the firm's local Better Business Bureau and commercial providers such as Angie's List.

Contractors must "(d) Have a satisfactory record of integrity and business ethics (for example, see Subpart 42.15)" (FAR,2011)

Admittedly, a contractor's record of integrity is difficult to assess. However, there are some resources such as the Project On Government Oversight's (POGO) Federal Contractor Misconduct Database (www.contractormisconduct.org). This database lists the top 100 contractors and the number of and dollar value of instances of misconduct since 1995.

Contractors must "(e) Have the necessary organization, experience, accounting and operational controls, and technical skills, or the ability to obtain them (including, as appropriate, such elements as production control procedures, property control systems, quality assurance measures, and safety programs applicable to materials to be produced or services to be performed by the prospective contractor and subcontractors). (See 9.104-3 (a).)" (FAR, 2011)

This will be conducted in many ways such as audits, on-site inspections, review of programs and procedures, and technical evaluations.

Contractors must "(f) Have the necessary production, construction, and technical equipment and facilities, or the ability to obtain them (see 9.104-3(a))" (FAR, 2011)

Inspections are the primary way of confirming contractor capabilities in regards to facilities and operations. The ability to obtain resources will be confirmed through a financial review as discussed in (a) above.

Finally, in order to be determined responsible, contractors must "(g) Be otherwise qualified and eligible to receive an award under applicable laws and regulations (see also inverted domestic corporation prohibition at 9.108)." (FAR, 2011)

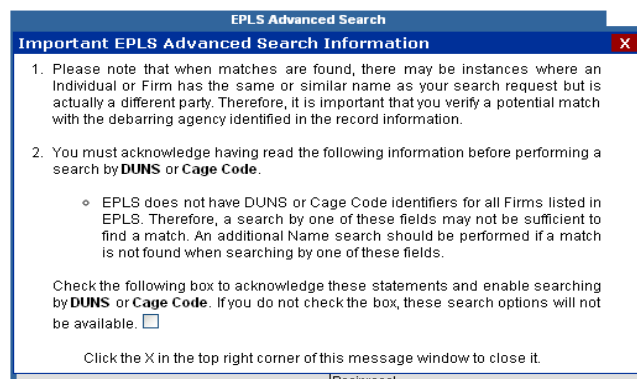


Contracting officers are legally obligated to ensure that all contractors awarded a contract are currently eligible to receive an award. To accomplish this, a search for the contractor in the Excluded Parties List System (EPLS) and in the Central Contractor Registration database (see the instructions in this guide titled “To determine total number of small businesses by NAICS”) is required. To search EPLS, follow these steps:

1. Go to the EPLS website: <https://www.epls.gov/>
2. Select the Advanced Search function.



3. When searching, follow the directions provided in the dialogue box.



Contractor Capability During Post-Award Administration

When exercising an option, contractor capability will also need to be considered to maintain their responsibility determination. This will primarily be reflected in contractor performance documentation obtained throughout the



performance period. If a contractor is not meeting the necessary performance requirements, or if there are negative financial issues affecting responsibility, the option may not be exercised due to the inability to determine the contractor to be responsible. An example for exercising an option is shown in Figure 9. Specifically, section (i) addresses contractor capability/performance issues.

DETERMINATION TO EXERCISE OPTION

In accordance with FAR 17.207, I hereby make the following determination in support of exercising the

FINDINGS

1. This option is authorized by FAR 52.217-(6,7,8, or 9), "Option _____", FAR 52.232-18, "Availability of Funds". Exercise of this option enables the Government to issue a unilateral modification and add the (option period, i.e., months or year) in support of (list activity) in accordance with Purchase Request No. _____
2. I hereby find that the price offered by the option is the most advantageous method fulfilling the Government need, price and other factors considered. These factors are addressed in detail below.
 - (a) Option prices were competed and evaluated at the time of award, and are exercisable at a specific dollar amount as stated in the basic contract.
 - (b) It is anticipated that a new solicitation will not produce a better price, or more advantageous offer.
 - (c) There were seven responses to the original solicitation. There was adequate price competition for the contract award. There are no known additional sources to solicit for the option period. We anticipate the same number of potential sources if we were to re-solicit for this service. (Note: Change based on the original acquisition situation)
 - (d) An informal analysis indicates there are no changes in the local economy, that would affect the cost of performance. Given the potential savings in administrative costs by exercising the option as compared to the administrative cost of awarding a new purchase order, the option prices are the best available. (Note: See FAR 17.207(d) for two other determination grounds, this is the most common)
 - (e) There is a definite need for continuity of this service. Disruption would have a negative impact on the using organization in meeting their customer needs and in turn increase the cost of re-establishing satisfactory service due to the cost of re-solicitation and the possible increase in cost of service. (Note: Change based on FAR 17.207(e) impact to your situation)
 - (f) Exercising this option is in accordance with the terms of the option, the requirements of FAR 17.207, and FAR 6, and the option price was evaluated as part of the initial competition and is exercisable at the amount specified in the terms of the basic purchase order. (Note: See FAR 17.207(f))
 - (g) The contractor shall receive written notification, which will cite option clause as the authority.
 - (i) According to the customer's statement of need, the contractor is performing satisfactorily. A check of the contractor's responsibility has provided no new information to challenge the contractor's good standing. (Note: To substantiate the determination noted below in para e, beyond asking the customer of their opinion, suggest checking the contractor's financial status, the contractor may have received poor review last year when you awarded the contract, but things change so it's good to check.)

DETERMINATION

Therefore, I hereby determine, based upon the findings above and in accordance with FAR 17.207 that:

- (a) Funds are available,
- (b) The option requirements fulfill an existing need of the government,
- (c) The exercise of this option is most advantageous to the government, price and other factors considered,
- (d) (This option has been synopsisized in accordance with FAR 5 OR synopsis of this option was exempted by 5.202(a)(11) or other appropriate exemptions in 5.202)
- (e) The contractor meets the criteria standards for responsibility in accordance with FAR 9.104 and,
- (f) The exercise of the option of this purchase order is in the best interest of the Government.

Figure 9. Determination to Exercise Option



Planning For Work with Small Business (SB)

It is the policy of the Government to provide the maximum practicable opportunities in its acquisitions to small business, veteran-owned small business, service-disabled veteran-owned small business, HUBZone small business, small disadvantaged business, and women-owned small business concerns.

Definition

FAR 2.101 (2011) defines “Small Business Concern” as a concern, including its affiliates, that is independently owned and operated, not dominant in the field of operation in which it is bidding on Government contracts, and qualified as a small business under the criteria and size standards in 13 C.F.R. Part 121 (see FAR, 2011, 19.102; DAU, 2011). Such a concern is “not dominant in its field of operation” when it does not exercise a controlling or major influence on a national basis in a kind of business activity in which a number of business concerns are primarily engaged. In determining whether dominance exists, consideration must be given to all appropriate factors, including volume of business, number of employees, financial resources, competitive status or position, ownership or control of materials, processes, patents, license agreements, facilities, sales territory, and nature of business activity (See 15 U.S.C. 632; DAU, 2011).

Background

A central part to any acquisition is the role that small business will play. The SBA can have a tremendous impact on the acquisition planning and eventual contract(s); thus, it is absolutely critical to involve them as early in the process as possible. While their involvement is imperative, it is important for all parties to understand the role that small businesses play in an acquisition.

For over 50 years, the SBA has sought to provide counsel to and protect the interests of small businesses. The SBA has statutory authority through the United States Code, Title 15, Chapter 14A, Sections 631a – 633 (USC, 2011). Because one of its key directives is to protect the interests of small businesses, it seeks to



ensure and promote competition in acquisitions including small businesses. Specifically, the Small Business Act Section 15(g) mandates that the SBA works with federal departments and agencies to reach the current statutory goal of 23% in prime contract dollars to small businesses. (The current goal of 23% is fluid, and varies occasionally. For the current percentage, visit the SBA Government website.) Furthermore, the SBA seeks to ensure that small businesses are afforded subcontracting opportunities, provided training, and able to access outreach programs.

The SBA has a department titled the Office of Government Contracting. This office works to create an environment that maximizes participation by all of the subcomponents of small businesses including Small Disadvantaged, Service-Disabled Veteran-Owned (SDVO), Woman-Owned (WOSB), 8(a), Historically Underutilized Business Zone (HUBZone), and Historically Black Colleges and Universities/Minority Institutions (HBCU/MI). This department of the SBA negotiates the annual goals with each federal agency, including the DoD. The Office of Government Contracting also works with thousands of individuals throughout the DoD designated as Small Business Representatives.

These individuals are embedded within organizations and units throughout the world. The Small Business Representatives are employed by the Services, but play a vital role in ensuring the SBA's goals and objectives are met. It is their job to be the liaisons between the SBA and the units in which they reside. Their positions may be strenuous at times because there may be competing goals between mission completion and small business utilization. It should be remembered that, although the relationship with the Small Business Representative may be occasionally stressed because of competing goals, they are extraordinarily valuable assets in terms of small business knowledge to be accessed when seeking to complete contractual actions.



Size Standards

One important function performed by the SBA is the determination of size standards. The methodology used for establishing and adjusting the small business size standards is often misunderstood by the majority, even those in contracting. The SBA administrator has the authority to establish small business size standards pursuant to the Small Business Act. The SBA examines the structural characteristics of industries in order to assess differences and competitiveness of any particular industry. Next, the SBA conducts statistical analysis of data on factors to establish appropriate size standards for each specific industry. Finally, the SBA periodically reviews each industry and makes changes based on industry changes and/or inflation.

The importance of a SBA size standard is that it directly impacts industries doing business with the Federal Government. It is important to select the most appropriate NAICS code. The choice of code should not be made based on these SBA size standards. Unfortunately, individuals looking to manipulate the acquisition process may choose to use an incorrect NAICS code to either include or exclude small business. Specifically, when a requirement may be adequately represented by more than one NAICS code, the size standards play an important role in determining whether small businesses are capable.



Types of Small Business

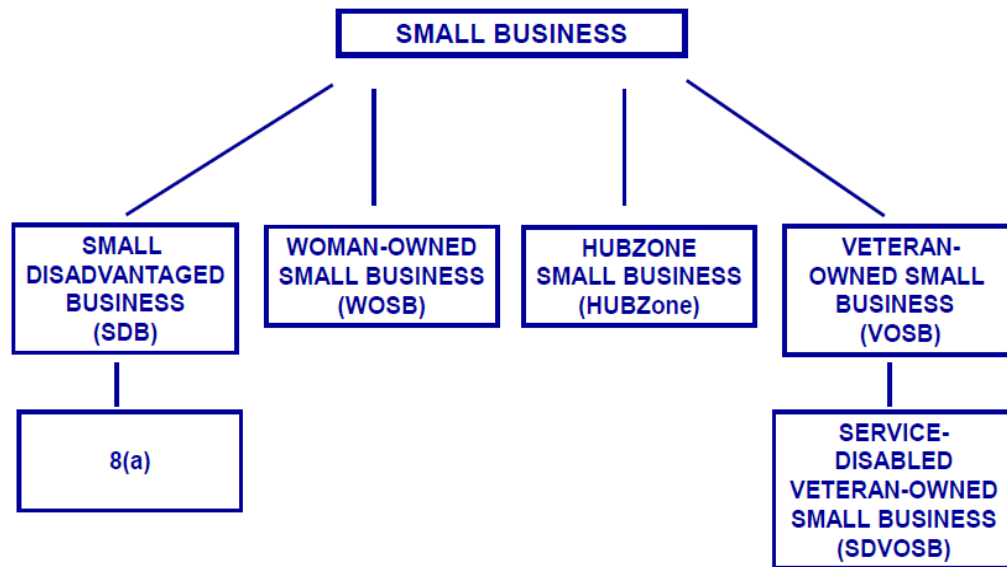


Figure 10. Small Business Types
(Warner Robins Air Logistics Center [WR-ALC], 2011)

Policy

According to FAR (2011) Subpart 19.5—Set-Asides for Small Business (Rule of Two):

The contracting officer shall set aside any acquisition over \$150,000 for small business participation when there is a reasonable expectation that (1) offers will be obtained from at least two responsible small business concerns offering the products of different small business concerns and (2) award will be made at fair market prices.

Both parts of this “Rule of Two” require valuable market research/market intelligence. Without understanding the approximate number of potential offerors in a market, it is very difficult for the contracting officer to make an informed, intelligent decision concerning the anticipated number of offerors. Directly coinciding with the requirement in the first part of the rule is the fact that fair market prices cannot be adequately determined without adequate market knowledge. Recently, the Under



Secretary of Defense for Acquisition, Technology, and Logistics (USD[AT&L]) determined that competitive solicitations that yield only one offerer are not sufficient to determine prices fair and reasonable solely based on the expectation of competition. It is very difficult for contracting officers to make a correct decision with regards to fair market prices if he or she does not truly understand the market for the goods or services being acquired. Utilizing the tools in this guide, the contracting officer can use market data trends and spend history to indicate a likely range for a fair market price.

Small Business Procurement Representative or Specialist

The first place to start when performing market research is the Small Business Procurement Center Representative (PCR) supporting your contracting activity. The Small Business PCR, located at each center in the SB office, should assist teams as requested in developing small business opportunities and conducting formal market surveys. Acquisition teams are highly encouraged to involve the PCR early in their market research strategy development process to identify possible sources. The PCR contact information is available on the U.S. Small Business Administration's website (www.SBA.gov).

Subcontracting

Be sure to include SB participation evaluation in source selections if the market research has determined that there are sufficient sources available in the industry. For instance, include them in the evaluation sub-factors in Section M of the solicitation. In addition, if the contract uses incentives, include small business participation as a requirement for receiving the incentive (e.g., use small business subcontracting percentage, or new sources, or new scope subcontracted, as an evaluation criterion for an award fee determination). The market research should play a vital role in determining the correct use of small business subcontracting. References for the Small Business Participation Evaluation:

FAR 15.304(c)(3) and (5)



- (a) Evaluate past performance for subcontracting
- (b) Include SB participation as an evaluation factor for solicitations involving bundling

DFARS 215.304(c)

- (c) SB participation shall be evaluated in best value source selections when a subcontracting plan is required

Bundling/Consolidation and Small Business Goals

Market research/market intelligence proves critical to bundling and/or consolidation procurement strategies. Both bundling and consolidation aggregate requirements to: 1) achieve volume savings from the marketplace, 2) reduce administrative costs associated with multiple source selections and multiple contracts, and 3) reduces performance risks associated with managing a greater variance of performance across more suppliers. FAR subpart 2.101 (2011) defines bundling as

1. Consolidating two or more requirements for supplies or services, previously provided or performed under separate smaller contracts, into a solicitation for a single contract that is **likely to be unsuitable for award to a small business** concern due to—
 - (i) The diversity, size, or specialized nature of the elements of the performance specified;
 - (ii) The aggregate dollar value of the anticipated award;
 - (iii) The geographical dispersion of the contract performance sites; or
 - (iv) Any combination of the factors described in paragraphs (1)(i), (ii), and (iii) of this definition.
2. “Separate smaller contract” as used in this definition, means a contract that has been performed by one or more small business concerns or that was suitable for award to one or more small business concerns.
3. “Single contract”, as used in this definition, includes—



- (i) Multiple awards of indefinite-quantity contracts under a single solicitation for the same or similar supplies or services to two or more sources (see FAR 16.504(c)); and
- (ii) An order placed against an indefinite quantity contract under a—
 - (A) Federal Supply Schedule contract; or
 - (B) Task-order contract or delivery-order contract awarded by another agency (i.e.; Government-wide acquisition contract or multi-agency contract).

Additionally, DFARS (2011) subpart 207.170-2 defines consolidation of requirements as “the use of a solicitation to obtain offers for a single contract or a multiple award contract to satisfy two or more requirements of a department, agency, or activity for supplies or services that previously have been provided to, or performed for, that department, agency, or activity under two or more separate contracts.” Consolidation or bundling of requirements increases the scope of work performed by the contractor. Market research/market intelligence provides key information to determine the viability of bundling or consolidation requirements. Because a firm’s revenue or number of employees determines their small business designation within its industry, the increased scope can make it more difficult to obtain competitive offers from two or more small businesses. Subsequently, consolidated or bundled procurement solicitations may go out as *unrestricted*, requiring small businesses to compete directly with large businesses.

FAR subpart 7.107 (2011) specifically addresses bundling contract actions as it relates to small business. In order to bundle requirements, the Government must ensure that it considers the impact on small business participation and the measurable benefits of bundling (i.e., quality improvements, administrative or direct cost savings, etc.). Additionally, FAR (2011) subpart 7.107(a) states that “because of the potential impact on small business participation, the head of the agency must conduct market research to determine whether bundling is necessary and justified.” The FAR establishes percentage savings thresholds for bundling to balance the Government’s cost efficiency goals with socio-economic goals. According to FAR



subpart 7.107(b), the agency may justify bundling as compared to the benefits that it would derive from contracting to meet those requirements separately if it results in savings equal to or greater than “(1) ten percent of the estimated contract or order value (including option) if the value is \$94 million or less; or (2) five percent of the estimated contract or order value (including options) or \$9.4 million, whichever is greater, if the value exceeds \$94 million” (FAR, 2011). It should be noted that “reduction of administrative or personnel costs alone is not sufficient justification for bundling unless the cost savings are expected to be at least 10 percent of the estimated contract or order value (including options) of the bundled requirements” (FAR , 2011, 7.107(d)).

The FAR and DFARS are very specific in their requirements for bundling contracts to minimize the impact on small businesses. However, while the information required is clear, the methods of collection are very ambiguous. Methods of collecting the aforementioned data are limited only by statutory and ethical constraints. Examining current and past contracts, contracts of other agencies, industry best practices, or academic articles; attending conferences; or conferring with third party consultants are all valid methods of data collection. It should be noted that a Determination and Findings (D&F) must be signed by the contracting officer and placed in the contract file. Ultimate responsibility and accuracy of the findings will rest with the contracting officer in his or her signature on the D&F. The amount of evidence necessary to substantiate cost savings will be reliant upon the amount required by the Head of Contracting Activity (HCA). Additional considerations may exist within the industry or market to place even further limitations on bundling. All these issues must be considered when performing market research to bundle or consolidate contracts being performed.

CO/Customer Considerations

When developing an acquisition strategy, the contracting officer and the customer need to have input on SB concerns. The following are some questions both sides can ask:



- Can an SB satisfactorily meet the customer's need?
- Has the customer made the requirements package too restrictive for a small business?
- If the acquisition is above a certain dollar threshold or too complex for a small business, what subcontracting opportunities are there for a small business?

Market Research Methods

Market research is pivotal in determining whether or not a Small Business can provide your desired product or service. An example of this was the Air Force's Furnishings Commodity Council (AFFCC) in 2009. The AFFCC utilized market research to identify industry best practices, benchmarked those best practices, and created business cases for cost savings initiatives. To identify the estimated percentage for each business case, the AFFCC used a percentage-of-savings methodology based on government and commercial savings benchmarks, historical Air Force spend analysis from FY00–FY07, and furnishings market forecast information.

The AFFCC relied heavily on a spend analysis to determine historical spend data on which to base savings estimates. Specifically, the AFFCC utilized data pulls from Contracting Business Intelligence System (CBIS), FPDS-NG, GSA, USA Spending.Com, and other manual data pulls. Based on the historical spend, the AFFCC was able to forecast spend data in out years from 2009–2013. The results of the spend analysis showed that over 76% of furniture purchases were made from small businesses. Additionally, market research showed that over 50% of an office furniture manufacturer's cost structure was variable and that labor made up the majority of fixed costs. This led the AFFCC to the volume purchasing sourcing strategy. The market research showed that manufacturers are attracted to volume purchases due to the ability to lower cost by fully utilizing labor, which is the second largest component of furniture cost. As a result, the AFFCC utilized industry benchmarks from government and commercial sources to estimate five year savings within three categories: conservative, moderate, and aggressive. The conservative



savings estimate is based on a 3% benchmark, the moderate savings estimate is based on a 6% benchmark, and the aggressive savings estimate is based on a 9% benchmark (Air Mobility Command [AMC], 2009).

The three savings estimate categories identified in the previous paragraph were applied to three business cases, based on market research, to show cost savings. The business cases include the following: develop Air Force furnishing standards and supporting policy (standardization), develop centralized contract vehicles (leverage volume to drive price reductions and improve purchasing efficiency), and acquire comprehensive furniture management services (CFMS), consisting of seven categories to include: project management, asset management, reconfiguration/relocation management, space planning and design, packaged furnishings, asset maintenance, and site preparation and reconfiguration (AMC, 2009).

The market research enabled the AFFCC to conclude that over a five-year period, furniture standardization, a centralized contract vehicle, and comprehensive furniture management services savings combine for an estimated cost savings between 10.6%–21% or \$41.2 million–\$81.8 million, respectively (AMC, 2009).

The goal was to reduce life-cycle costs, eliminate duplicate efforts throughout the command, standardize requirements, and lower total ownership costs. The AFFCC created a standardized requirements list for all bases. This list included basic specifications for different levels of office chairs such as executive, executive guest, and side/general seating. Each requirement also had a minimum warranty that vendors would have to guarantee. The idea was to make the requirements as basic as possible and to allow suppliers to quote various options. Once they identified what the requirements would be, the AFFCC began to research the available furniture vendors in the market.

Most of the furniture manufacturers, large and small, used furniture dealers to market and sell their products. Most of these dealers are small businesses located



throughout the country. Manufacturers typically do not have their own showrooms. Some dealers only specialize in certain manufacturers' brands, but for the most part, dealers represent all manufacturers. One of the methods used to gain vendor awareness was the National Exposition of Contract Furnishings (NEOCONs) World's trade fair in Chicago. Participants of the trade show learn about the latest designs, trends in fashion, and scientific breakthroughs in chair ergonomics. Using this tradeshow, the Furnishings Commodity Council (FCC) was able to develop a detailed vendor list that included both large and small businesses. After attending NEOCON, the AFFCC drafted three strategy recommendations: 1) develop and enforce furnishings standards, 2) establish a centralized contract vehicle, and 3) acquire comprehensive furniture management services.

Through further research and the help of consulting firms, the Air Force determined that 63% of furniture manufacturing was done by the "Big Five" companies. An RFI was posted in 2007 and 41 responses were received, of which eight were from large manufacturers, five from small manufacturers, 20 from distributors/suppliers, one from FPI, and one from a Turkish manufacturer; six were unidentified corporations. Most of the distributors proposed teaming agreements with large manufacturers. In 2008, members of the FCC attended the 2008 NEOCON. This time, they broke into three teams comprised of one contracting officer and two technical representatives. Each team met with a manufacturer for one hour to review the seating selections and what they had to offer. As part of their research, the teams also learned what each manufacturer's production capacity was and whether they could handle the increased capacity of supplying the Air Force.

After thorough market analysis and research, the AFFCC determined that the commercial marketplace could fulfill the Air Force's needs, and that the seating products offered via the GSA schedule met the minimum requirements. Through spend analysis, the Air Force Small Business Solution Center (AFSBSC) identified that only 23% of the suppliers of office furniture were small business non-GSA manufacturers (AFSBSC, 2009b). However, the AFSBSC found that wood seating comprised of mostly niche small business manufacturers (AFSBSC, 2009b). In



addition, the Air Force bought 80% of dorm furnishings from small businesses (AFSBSC, 2009a). Thus, it was determined that even with consolidation, the AFFCC would receive adequate small business competition for Spiral 1 (wood seating) and Spiral 1A (dorm furnishings). Extensive market research gave the AFFCC current market condition information necessary to make an informed and substantiated small business participation determination.

The following chapter provides an actual sample MR report for Facilities Management using the methods and practices from the preceding chapters as well as tools contained in the appendices of this guide.



Part III: The Plan

The following MR report example is for Facilities Management in the North East region of CONUS. This example is partially notional with key decisions created for the purpose of providing a “how to” example. Some facts and data are real and some have been created for illustration. The intent is to show the reader how to aggregate MR/MI to make acquisition decisions, not to provide MR/MI for a real Facilities Management acquisition strategy. Take notice of the sidebar running throughout the right-hand margin of the document that point the reader to areas in future pre- and post-award decisions and documents to which this information is pertinent.

Market Research Report: Facilities Management

Product/Service Description

This market research report includes an analysis of the need for Facilities Management services strategically sourced across the North East region. This category of services includes various property management services such as custodial services; heating, ventilating, and air conditioning (HVAC); office design; office outfitting, including paint, partitioning, hardware, etc.; security services; catering; water management; waste collection; and laundry services. The market has moved towards aggregating these highly fragmented spend categories into a single, integrated facilities management approach to help manage these diverse services. NAICS codes and small business size standards are listed in Table 2 for the five categories we are considering grouping into a facilities management service requirement.



Table 2. NAICS and Small Business Size Standards

<u>Description</u>	<u>NAICS</u>	<u>SB Size Standard</u>
Property Management	531311	\$2 Million
Custodial	561720	\$16.5 Million
HVAC	238220	\$14 Million
Security Services	561621	\$12.5 Million
Waste Collection	562211	\$12.5 Million

For the purpose of this aggregated acquisition, the size standard of \$2 million and NAICS of 531311 will be used to categorize the acquisition for SBA purposes. This decision is based on FAR (2011) 19.102 (d) relying on the (notional) size standard for the industry accounting for the greatest percentage of the contract price. FAR 8.603(b) mandates that we consider AbilityOne for services first. Our market research shows that AbilityOne can provide the following services listed in Table 2 (see source: http://abilityone.org/total_facilities_management.html and http://www.abilityone.gov/documents/2008/solutions_brochure.pdf) that we considered when sourcing Facilities Management services:

- Custodial
- HVAC
- Security
- Waste
- Facilities Operations and Maintenance

We also have to understand our agencies' propensities across a continuum of options to be able to strategize how to source this aggregate requirement. See Figure 11 (notional).



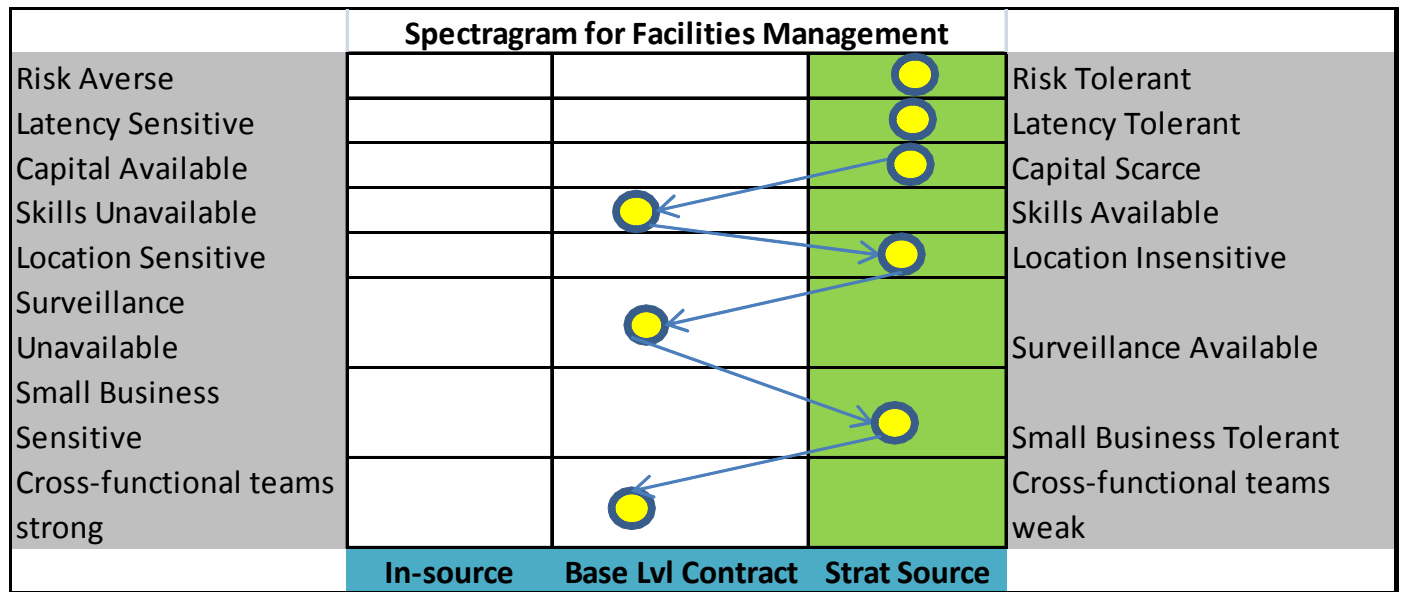


Figure 11. Spectrogram for Facilities Management

Using the Spectrogram in Figure 11, we can lay agency sourcing options across a spectrum and analyze it against our propensities and strengths/weaknesses. Note that we are assessing our tolerance for certain items such as risk and latency of service (how sensitive we are to delays in the service) along with the availability of certain resources such as skills and cross-functional teams to manage the service (these variables can be changed, eliminated, or supplemented for agency purposes). Our agency had to decide our potential choices for sourcing strategies, which, in this case, are to in-source all functions, to use a base-level contract (or continue to source locally on a segmented basis of custodial, security, HVAC, etc.), or to strategically source (consolidate all listed services and centralize management at the enterprise or regional level).

Based on the notional assessment above, we see that, for Facilities Management, we do not sit firmly on either end of the spectrum. Therefore, we “connect the dots” to see that the majority of our propensities lie in an area where the most logical decision is to strategically source. It is not the best decision for all variables, but it is the most effective given our constraints and the variables listed. This can be expanded to other variables and additional sourcing options as necessary. One consideration is the degree to which HVAC maintenance is currently maintained in-house. This may indicate the need for an A-76 cost comparison of this commercial activity. Another consideration might be cost savings potential (i.e., economies of scale that can be realized by consolidation and savings from standardized equipment, fewer contracts, fewer

This analysis can be used in the following:

Pre-Award:

—Information for Acquisition Strategy Panels (ASPs)

—Information for Acquisition Plan sections for statements of need, and product/service descriptions

—Information for consolidation D&Fs in instances where consolidation is considered

Post-Award:

—Options D&F for determining that services offered still meet the Government’s needs and that the Government’s needs definition has not changed substantially since award of the base contract period.



contractors, fewer source selections, fewer parts in local inventories, standardized service levels, etc.). The following screenshots (see Figure 12) are provided by Sourcing Interests Groups' (SIG) report on the Facilities Management industry.

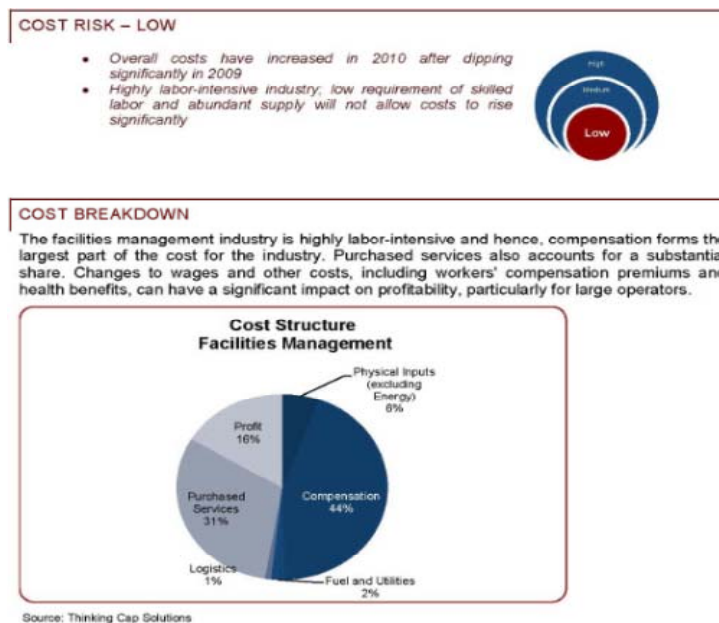


Figure 12. SIG Report on the Facilities Management Industry
(Sourcing Interest Group, 2011)

As shown in Figure 12, Facilities Management has low cost risk based on high-density, low-skill workers in an environment of high unemployment. The cost breakdown shows that costs such as direct materials are not nearly as impactful as direct labor. This indicates that economic price adjustments are not necessary and that the buying agency should seek a fixed-price contract to prevent sensitivity to wage fluctuations. According to the Congressional Budget Office (Elemendorf, 2009), recent changes in healthcare requirements could alter loaded labor rates or fringe benefit costs for future service providers and should be considered in

This analysis can be used in the following:

Pre-Award:

—What are the impacts of the new healthcare law? If the business does not know the monetary impact that will be forced by law, how will they recoup the money later in the acquisition? Modification? Should the Government add a NTE CLIN and estimate the amount so the customer can budget for it?

—Noting cost drivers and features of the market can aid in reasonably determining contract type based on anticipated risks.

Post-Award:

—External analysis is important when modifying the contract to negotiate fair and reasonable prices.

—Exercising an option requires an analysis of the market, including the environmental factors.



the independent Government estimate (IGE) for the pricing of the base and option years.

Decisions of contract type are based on the following analysis derived from FAR (2011) Part 16.104 (see Figure 13). Neither Time and Materials nor Labor-Hour type contracts are appropriate as we can reasonably estimate the extent and duration of work and can anticipate costs. It is obvious that a firm-fixed price (FFP) type contract would be the best method for sourcing Facilities Management based on this analysis and based on the fact that Facilities Management is a highly commercial service already available through AbilityOne.

Contract Type Analysis					
Price Competition Low					x Price Competition High
Price analysis Low					x Price analysis High
Cost analysis High					x Cost analysis Low
Type/Complexity High					x Type/Complexity Low
Urgency of need High					x Urgency of need Low
Contractor technical capabilities/financial responsibility (relative) High					x Contractor technical capabilities/financial responsibility (relative) Low
Adequacy of Contractors accounting system High					x Adequacy of Contractors accounting system Low
Concurrent contracts Few					x Concurrent contracts Many
Subcontracting Difficult					x Subcontracting Easy
Acquisition History Weak					x Acquisition History Robust
Performance Measurability Low					x Performance Measurability High
Requirement Definition Vague					x Requirement Definition Clear
Commercial (12.207) Low					x Commercial (12.207) High
	Cost Incentive	Cost Award Fee	Fixed Incentive	Fixed Award Fee	FFP

Figure 13. Contract Type Analysis



Shown in Figure 14, the forecasts for facilities management pricing shows low risk, which will be explained in further detail later in the market analysis. This tells us that our Government estimates are expected to stay relatively stable.

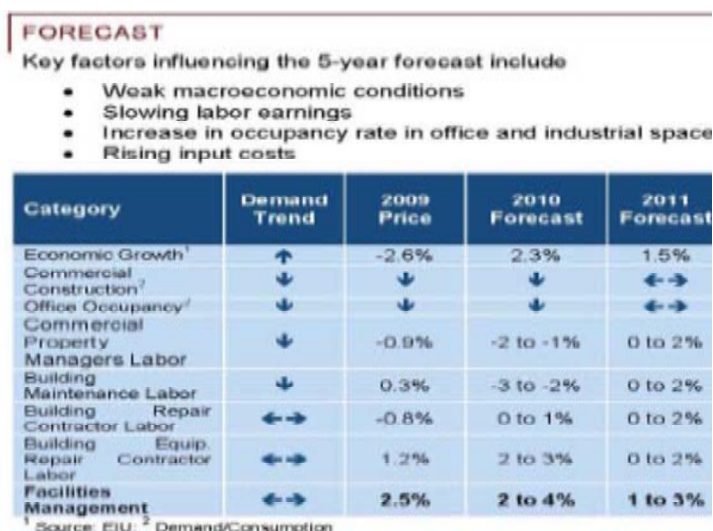


Figure 14. Forecasts for Facilities Management Pricing

Based on previous acquisitions for the aforementioned segmented services, we estimated the contract price (notional), as displayed in Table 3.

Table 3. Contract Price (Notional)

Description	Base	Opt 1	Opt 2	Opt 3	Opt 4
Property Management	Notional \$	Notional \$	Notional \$	Notional \$	Notional \$
Custodial	Notional \$	Notional \$	Notional \$	Notional \$	Notional \$
HVAC	Notional \$	Notional \$	Notional \$	Notional \$	Notional \$
Security Services	Notional \$	Notional \$	Notional \$	Notional \$	Notional \$
Waste Collection	Notional \$	Notional \$	Notional \$	Notional \$	Notional \$

This analysis can be used in the following:

Pre-Award:

—Preparation for an ASP

—Acq Plan sections for Plan of Action, Acquisition Considerations, Contract Type and Budgeting & Funding

—Source Selection Plan (SSP) sections on contract type & length, and market research

—TCO analysis should reflect directly on the IGE that will drive anticipated dollar values.

These dollar values govern thresholds for Acq Planning, review authorities and can affect CAS and cost and pricing data requirement decisions.



The anticipated contract performance period is a standard base year with four option periods of one year each. A spend analysis and a time-sequenced profile of existing contract expiration dates with anticipated phase-in of new contracts determined the estimated contract value and performance period. Prices listed above may fall, dependent upon the degree of cost savings from consolidating these disciplines. Keep in mind that the total cost of ownership (TCO) for service contracts such as these can far exceed the price and even “should-cost” scenarios related to supply purchases (Nicosia and Moore, 2006). Due to Services Contract Act (SCA) wage determinations, we would not expect significant savings in a large cost component like direct labor due to economies of scale. However, we would expect to realize savings on items such as the standardization of HVAC equipment, and further spreading overhead (O/H) and profit over many service departments. Further savings are found by managing fewer contracts which reduces transaction costs. An in-depth TCO analysis of this requirement is attached with the independent Government estimate (IGE) (notional). This is derived from historical contracting methods and industry analysis that shows low risk in the areas of supply, cost, demand, and pricing. Our analysis shows that techniques such as multi-year contracting for a period in excess of five years would not be expected to yield greater cost savings through strategic partnering, as the market is low risk and slow moving.

Post-Award:

—Exercise of options and negotiating contract modification require a fair and reasonable price.



Background

Historically, facilities management services have not been consolidated; individual contracts have been awarded for each category of service (e.g., custodial, grounds maintenance, refuse removal/recycling, security, etc.). Previous multi-base awards for these services have been based on major commands, not geographic regions. In the past, federal contracts have mostly been stand-alone, firm-fixed price contracts and were typically for a base year plus four option years. Prices varied widely based on the exact type of services on the contract as well as by geographic location due to variation in prevailing wage rates that significantly impact the final contract price.

Small businesses and AbilityOne receive a large portion of the contract dollars under the current way of doing business. The proposed service replaces over 300 (notional) contract actions worth in excess of \$100 million (notional) annually from 14 (notional) different buying offices awarded to 76 (notional) different contractors. The magnitude and the geographic area it covers will likely make it difficult for a single small business to perform the service, while the consolidation of all facilities management activities should not prevent AbilityOne from competing. In the past, these were not issues but require consideration under the current plan.

The most important trend in the facilities management market is the trend of organizations consolidating facilities management services into single contracts. Correspondingly, there has been an uptick in consolidations and conglomerations of companies that provide portions of these services into larger firms that can provide the entire spectrum of desired services. Formal mergers may impact some firms' ability to compete as small businesses if they exceed the size standard, but joint ventures that offer the same capability do exist.



Performance Requirements

Facilities management is considered a commercial service (see Commercial Opportunities). As such, there are common requirements that pertain to most Facilities Management contracts, although the customer determines the exact requirements to procure. Facilities Management lends itself to performance requirements that can be framed “end result” style, or better stated as a performance-based outcome. These requirements should follow the rationale later explained in this report under Industry Standards and Commercial Business Practices. The type of performance requirements that are chosen can help guide the acquisition. If a performance-based outcome is mission essential, it could be added as an evaluation factor.

For example, the HVAC service could be considered mission essential due to weather conditions, cooling of computer equipment, or any other issue the customer determines. If mission essential, you could add evaluation factors in section M of your solicitation that could include response time, experience of HVAC repairmen, or any factors determined to be critical. The following is an example of an HVAC performance requirement:

HVAC services: The contractor shall provide all labor, parts, tools, equipment, and transportation necessary to provide preventative maintenance, support services and repairs for the Heating, Ventilation, and Air Conditioning (HVAC) system for buildings XX located at Base X. The contractor shall perform routine maintenance on the HVAC

This analysis can be used in the following:

Pre-Award:

—Preparation for an ASP

—Acq Plan sections for Product/Service Descriptions and Other Acquisition Considerations

—SSP sections on incentives, special contract considerations, process controls and evaluation factors

—Performance Requirements should drive every aspect of the Performance Plan, especially the Services Summary (SS) and its performance measurement methods/metrics (i.e., quality, timeliness).

—Award fee plan evaluation criteria and the relative weights of each factor (if such a contract type were considered. We do not recommend it for these services).



systems and provide on-call, non-recurring maintenance and repair.

The contractor shall maintain, in full service, all HVAC units located in buildings XX, including all controls and wiring connected to the HVAC units. Units must be operational 24/7.

Frequency of services is determined by the customer in terms of quality of service. That frequency could be determined in a myriad of ways. It is important to not dictate a numerical frequency but explain in performance-based measures that the Facilities Management services, such as Custodial and HVAC described previously, are consistently maintained at acceptable levels based on the subjective quality measures detailed in the performance plan.

For HVAC, the basic 24/7 time is stated but there still needs to be realistic time for service calls and also preventative maintenance to keep the units at operational capacity. (Notional) Our research indicates that a typical response time should be explained as follows:

“Emergency response time shall be within 1 hour from the time a call is made to the contractor’s repair service, to the time the service technician arrives on site. Contractor shall provide emergency after-hours points of contact and associated telephone numbers to the contracting officer and the Building Facility Manager.”

Further, this area may drive the need for an Award-term type contract that would provide its incentives in the form of future performance periods if accumulated future performance benefits could be expected with longer term contracts (i.e., Multi-year contracts [MYC]). (However, based on previous MR stated, we do not anticipate this being the best type for Facilities Management.)

Post-Award:

—Future Performance Plan adjustments after award

—Option D&F

—Award-fee decisions



Vendor Analysis

The following tables provide information about known suppliers that are likely to compete for the requirement. The “Best in Class Suppliers” (see Table 4) are those that provide all of the services in the requirement and have consistently provided superior service based on past performance evaluations in PPIRS/CPARS and/or attained high ratings or rankings in published trade journals or market reports. The “Other Potential Vendors” (see Table 5) are those that provide the required services but have not provided consistently superior service or do not have formal past performance that can be reviewed (Note for reader: we include this information to do a market intelligence assessment, not to develop a competitive range before the source selection phase).

Table 4. Best in Class Suppliers

Vendor Name	Location	Point of Contact	Capability
Northeast Facilities Management	Bangor, ME	JoAnn Gallant Phone: 207-942-1707 msv70jojo@aol.com	(Notional Example) Provides all required services with consistent superior past performance ratings. Able to successfully provide surge capacity when required. Substantial operations in every state in Northeast region.
Notional	Notional	Notional	Notional
Notional	Notional	Notional	Notional
Notional	Notional	Notional	Notional
Notional	Notional	Notional	Notional

This analysis can be used in the following:

Pre-Award:

—Preparation for an ASP

—Acq Plan sections for Sources, Capability of Performance, Make or Buy, Logistics Considerations

—SSP sections on Market Research

—This type of analysis can give further insight into PPT scenarios and help the CO decide what, if any, past-performance requirements should be addressed based on previously defined needs and current vendor pool performance records.

—Best in Class suppliers can be probed with RFIs or draft RFPs to determine whether the Government’s requirements can be met and are adequately defined.



Table 5. Other Potential Vendors

Vendor Name	Location	Point of Contact	Capability
Tech Services of New Jersey	South Plainfield, NJ	Charles Nagy Phone: 877-756-9800 info@techservicesnj.com http://www.techservicesnj.com	(Notional Example) Provides all required services with limited experience in security. Has not worked with federal Government before. Primarily services New York, New Jersey and Pennsylvania.
Notional	Notional	Notional	Notional
Notional	Notional	Notional	Notional
Notional	Notional	Notional	Notional
Notional	Notional	Notional	Notional
Notional	Notional	Notional	Notional

A variety of methods were used to find potential suppliers including CCR, PPIRS, SBA's Dynamic Small Business Search, trade journals, spend analysis, social media groups, and internet searches. Due to the robust SB and AbilityOne capabilities noted for Facilities Management, most of the detailed explanations of vendor analysis are further explained in the Small Business Considerations section of this report.

Post-Award:

—Option D&F to decide whether new/better sources exist outside of the current contractor

If using AbilityOne, you could require subcontract consent to ensure that the best prices (and performance) will be obtained from subcontractors. As part of this, you could require that AbilityOne conduct an electronic reverse auction (eRA) for supplies and services appropriate for eRAs. eRAs can be integrated into an LPTA and a full tradeoff selection.



Product Data

Because facilities maintenance is a service, there are no product data sheets or any other support manuals. In order to save money in the long run on this newly consolidated requirement (due to strategic sourcing), we need to standardize the requirement, including the service levels. One example of this is to standardize the HVAC systems, which will simplify repairs and reduce inventory. In addition, we may determine that it is cheaper to centrally source repair and replacement systems and parts (and provide them as GFP) instead of allowing the prime contractor to purchase the parts. The backward integration of sourcing is a common sourcing strategy used in industry. For example, large firms commonly source inbound transportation and direct suppliers to use approved carriers due to the large volumes and superior unit prices that can be attained by the buyer.

The quality assurance for facilities maintenance, like any other service requirement, is built around the agency's needs. Consideration should be given to manpower available for quality evaluation (e.g., 100% evaluation vs. random sampling), the amount of customer input to use for surveillance, and the evaluation areas for each portion of the contract to include the minimally acceptable level of service (e.g., evaluating timeliness under maintenance response).

This analysis can be used in the following:

Pre-Award:

—Preparation for an ASP

—Acq Plan sections for Sources, Capability of Performance, Make or Buy, Logistics Considerations

—SSP sections on Market Research

—The information found on AbilityOne can be used to source possible suppliers in CCR, along with SB set-aside information.

Post-Award:

—Option D&F to decide whether new/better sources exist outside of the current contractor



Market Analysis

Facilities Management Market Defined

Figure 15 is simply a snapshot of the five industries that make up our definition of facilities management services.



Figure 15. Five Industries of Facilities Management Services

AbilityOne Program

According to FAR (2011) Part 8.002(a)(2), “Services” lists the first required source for services for the federal Government—the Committee for Purchase From People Who Are Blind or Severely Disabled. This is commonly referred to as the AbilityOne Program. The procurement list can be found on the AbilityOne Program’s website: www.abilityone.gov. For detailed information on the AbilityOne Program’s total facilities management capabilities, you can visit the website at www.abilityone.org/total_facilities_management.html.

Even though there is a required source for most of the industries that encompass facilities management, there is still value in performing an industry analysis as part of the market research phase to ensure you are not only getting the best value, but also spending strategically. A breakdown of each of these five industries to include an analysis of that industry, its competition, consolidation and/or



bundling, regulations, and green initiatives is found in Appendix E. The industry analysis is presented in the form of a Porter's five forces analysis (see Figure 16) and is followed by a SWOT analysis (see Table 6) that uses the information gathered from the five forces analysis. For a more detailed description of how to apply Porter's five forces analysis and a SWOT analysis for different industries, see Appendix B of this Market Intelligence Guide.

Porter's Five Forces Analysis of Facility Maintenance

Facilities Management



Figure 16. Porter's Five Forces Analysis: Facilities Management

Threat of New Entry (Barriers to Entry)— HIGH Threat/LOW Barriers

- The Facility Management industry has few barriers to entry, due to the low level of market share concentration, low capital investment requirements, and low skill specialization.
- New businesses may need to invest in a small amount of capital up front but very little specialized equipment required. There is also a low level of training required for industry employees. They can move easily from one business to another; thus, labor is not expected to be a significant barrier to entry.
- Morningstar® quantitatively measures competitive advantage of firms using an “economic moat rating.” These ratings from the firms in the facilities management industry could help assess barriers to entry, relative power positions, and could help identify the “best-in-class” suppliers.

The Power of Suppliers—LOW

- Many of the supplies and much of the equipment for this industry are easily acquired.
- Growth in the commercial segment has occurred in the past five years ensuring that there are ample suppliers available.

The Power of Buyers—HIGH

- Most commercial facility management contracts with clients are for only one year, with “evergreen” contracts being common in which the buyer can extend the contract each year if satisfied with the supplier’s performance but which also carries extremely short contract termination periods. This works to the benefit of the buyers, giving them more power than the suppliers.

Five forces analysis can be used in the following:

Pre-Award:

—Preparation for an ASP

—Acq Plan sections for Costs, Risks, Contractor vs. Government performance, logistics considerations, product/services descriptions, contract duration

—SSP sections on Market Research

—The information shows the power of buyers will be relatively high. The Government must be aware of its power in the market and adjust its acquisition strategy accordingly.



The Threat of Substitutes—MEDIUM

- The main substitute is when buyers insource the facility management work, hiring their own employees to perform these tasks, including on a cash-only basis paid under the table with no contract.
- During recessions, companies seek to decrease their own operating expenses by keeping the facility management work in house.

Rivalry among Existing Competitors—HIGH

- Commercial facility management contracts typically have a one-year duration and can be terminated by the operator or the client within 30–90 days of notice. Because of this, price-based competition is intense.
- In addition, a large number of small business operators increase competition for contracts, particularly on a price basis.

Post-Award:

—Option D&F to decide whether new/better sources exist outside of the current contractor

—Determine negotiating power during contract modification negotiations—determine your best alternative to a negotiated agreement (BATNA)



Table 6. Producer Price Indices (PPI) to Consider

<p><u>Strengths</u></p> <p>-What advantages does the organization have?</p> <p>The Federal Government as a whole has tremendous buying power that it can leverage.</p> <p>-What does the organization do better than anyone else or what unique resources can the organization draw upon that others can't?</p> <p>The buyer could use their skills to create a Government-wide contracting vehicle to bring standardization and efficiencies to multiple organizations through a partnership with the AbilityOne Program.</p>	<p><u>Weaknesses</u></p> <p>- What could the organization improve?</p> <p>Currently, each individual installation contracts for its own facilities management services, and therefore creates much duplication of effort. Bringing standardization to this industry would create the ability to save through economies of scale.</p> <p>-What should the organization avoid?</p> <p>Creating an inflexible solution that creates more work than it eliminated should be avoided.</p>
<p><u>Opportunities</u></p> <p>-What opportunities can you spot?</p> <p>If the Federal Government were to standardize the requirements across all installations, then the opportunity to create efficiencies would open.</p> <p>-What are the trends?</p> <p>The overall costs in the industry are coming down due to better management and educational initiatives.</p>	<p><u>Threats</u></p> <p>-What obstacles does the organization face?</p> <p>Creating an enterprise-wide solution would be met with much resistance from each installation that wants to maintain local control and maximum flexibility.</p> <p>-Are there new Government regulations?</p> <p>A change in the Government regulations eliminating the required source of supply might destroy the proposed partnership with the AbilityOne Program.</p>

SWOT analysis can be used for the following:

Pre-Award:

—ESIS

—Preparation for an ASP

—Acq Plan sections for Costs, Risks, Contractor vs. Government performance

—SWOT analysis can have many different effects on Acq Planning and strategies dependent upon its findings. In the pre-award phase, SWOT is helpful in PPNM and PNM development and strategies. Knowing your potential contractor's (as well as your agency's) SWOT can aid in more effective negotiation positions.

Post-Award:

—SWOT is an excellent tool for negotiations and can be utilized to prepare to definitize UCAs, retroactively negotiate change orders, or modify existing contract requirements under the changes clause.



The Market Trends and Forecasts and Cost Drivers for Facilities Management

A Science Foundation Project, titled *Educating Technicians for Building Automation and Sustainability*, outlines the current state of industry standards in the Facilities Management industry. The number one challenge, as stated in this article, is

formal job training for facility managers are often indirect, as few facility management educational degree and training programs exist. Combined with a lack of well-established industry standards for facility management, operations, and maintenance practices and processes, many entering the industry find themselves unprepared for the challenges ahead. (Ehrlich et al., 2010, p. 8)

Currently, the development of training programs including curriculum, laboratories, testing standards, and proficiencies is needed in the industry. In order for this industry to receive the needed respect and attention it deserves, professional certifications need to become the norm. To achieve this, the industry must develop written guidance and a well-documented process to ensure consistent certification standards across all the different areas of facilities management.

Market and cost driver analysis can be taken from the MR Report for the following:

Pre-Award:

—ESIS discussion points

—Preparation for an ASP

—Acq Plan sections for Costs, Risks, Contractor vs. Government performance and Logistics considerations

—Cost drivers such as the HVAC units could be sourced separately at a strategic level (backward integration of sourcing) and provided as GFE to the contractors. This would help develop the GFP portions of the PWS as well as the need for specific GFP T&Cs.

—Cost drivers can be used as measurements for incentive-fee-type contracts.

—Note: we are not suggesting the use of an FPIF contract for Facilities Management.



If the current market trends continue and the industry is able to improve their efficiency through better education of the profession, this will lead to a lower TOC for future Government requirements. The Government should ensure that the market research is truly ongoing and as prices start to fall due to better management of the profession, the Government should use a strategy flexible enough to capitalize on the reduced costs and improvement of services.

There are many cost drivers for the facility management industry that must be considered when conducting a market analysis. The biggest cost driver is labor. It is noteworthy that the Service Contract Act requires that workers on federal contracts be paid the prevailing wage rate for the local area as determined by the Department of Labor. Another cost driver is replacement parts, especially for HVAC. For waste collection, a significant cost driver is the distance to the nearest landfill, which directly affects fuel costs. Even if there is a landfill nearby, a cost benefit analysis should be done to ensure it is not cheaper to use the nearest municipal landfill due to the high cost of running a small landfill operation.

Future inflation is another key consideration for future negotiations. We used the producer price indices (PPIs) to predict price inflation for the new acquisition. These PPIs aid in predicting price trends, determine whether supplier price increases are equitable, and as a basis for negotiating prices and price escalation clauses

Post-Award:

—Exercising an option and contract modification negotiations

Pre-Award:

PPIs can be used to determine reasonable objectives for price negotiation in PNO/PPNMs later in the source selection process.

Post-Award:

PPIs can help you evaluate current contract prices prior to exercising an option based on trends and supplier-tier price increases



can also help determine whether to exercise the option when the time comes. The PPIs to consider, currently, are listed in Table 7 (United States Department of Labor, 2011).

Table 7. Producer Price Indices to Consider

<u>Description</u>	<u>NAICS</u>	<u>PPI (Oct 2011)</u>
Property Management	531311	111.4
Custodial	561720	112.6
HVAC	238220	114.1
Security Services	561621	125.5
Waste Collection	562211	121.6

Environmental Impact Considerations & Certification Requirements

Property Management

Certifications Requirements

There is no legal certification requirement for companies to work in the property management industry, and will not be required for this acquisition. However, like all other industries, operators have to abide by all relevant occupational health and safety provisions. However, according to the Institute of Real Estate Management/International Facilities Management Association (ifma.org), certifications are available.

Certification/ regulation analysis can be taken from the MR Report for the following:

Pre-Award:

—ESIS discussion points

—Preparation for an ASP

—Acq Plan sections for Make or Buy, Environmental and Energy Conservation Objectives

—SSP sections on Market Research, and Special contract considerations

—Certain certification requirements build directly into source selections in terms of technical (pass/fail) evaluation requirements for Sections L&M.

—These certifications can become key CDRL requirements and/or performance plan measures/metrics.



Environmental regulation

There are no environmental regulations specifically placed on firms working in the property management industry.

Custodial

Certifications Requirements

The industry is not regulated or licensed, but like all other industries, operators have to abide by all relevant occupational health and safety provisions. This particularly applies to the use and storage of cleaning compounds. Industry operators are subject to various federal state and local laws regulating the discharge of harmful chemicals into the environment. These regulations relate to the use, storage, transportation, and disposal of waste and hazardous substances.

Environmental regulation

Over the past five years, companies in the Custodial Services industry have increasingly focused on providing eco-friendly cleaning products and services to appeal to emerging business and consumer preferences for green services. The Green Care program uses eco-friendly products and methods. ABM Industries, a large business Government contractor for major facilities management, expanded its Green Care service and product offering in response to greater consumer interest in the program. Significant advancements in cleaning equipment resulted in products that are better able to capture and remove soil than

Post-Award:

—Information from these certifications/ regulation requirements can feed future changes to the Performance Plan and possibly evolve into future contract requirements modifications if missed or changed throughout the life of the contract.



those made several years ago. These include advancements in special filters on vacuum cleaners and microfiber cloths and mop heads.

HVAC

Certifications Requirements

Participants in the HVAC industry are required to obtain state-based licenses, while industry-based apprenticeship training is mandatory to obtain various qualifications. Industry associations also certify competency across a range of specialized fields. Compliance with industry regulations, construction standards and licensing requirements adds to the cost of operating in this industry, but also prevents the entry to the industry of unqualified competitors.

Installation and maintenance services are subject to industry-based standards approved by the American National Standards Institute (ANSI). These standards are encompassed in the ARI/ANSI and ARI/CSA Standards and Guidelines (ARI is the Air Conditioning and Refrigeration Institute), standards set out by the American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE). The International Association of Plumbing and Mechanical Officials' (IAPMO) Uniform Mechanical Code sets out the requirements for the installation and maintenance of industry systems.

Environmental Regulation

HVAC contractors are subject to numerous federal, state, and local environmental laws and regulations, including those governing vehicle emissions and the use and handling of refrigerants. The U.S. Environmental Protection Agency (EPA) and state and local Governmental agencies administer these regulations. The technical requirements of environmental legislation are complex and stringent.

Federal and state environmental laws include statutes intended to allocate the cost of remedying contamination among specifically identified parties. The federal Government's Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), widely known as Superfund, can impose strict liabilities on past and



present owners or operators of facilities and transportation equipment, which release hazardous substances. A majority of states have adopted “Superfund” statutes, often more stringent than CERCLA.

Contractors are subject to the Clean Air Act, Title VI, which governs air emissions and imposes specific requirements on the use and handling of substances known or suspected to cause harmful effects on the stratospherical ozone layer, such as chlorofluorocarbons (CFCs) and certain other refrigerants. Clean Air Act regulations require the certification of service technicians involved in the service or repair of systems, equipment, and appliances containing these refrigerants and also regulate the containment and recycling of these refrigerants.

Over much of the past decade, the United States has been in the midst of a “green movement” due to environmental concerns regarding climate change. Due to the dramatic rise in energy costs, consumers and businesses have become more energy-conscious, and the Government has tried to reduce the United States’ dependency on fossil fuels and other non-renewable energy sources. To reduce energy consumption, the U.S. federal Government, along with many states, provided incentives for individuals to upgrade and replace existing HVAC and refrigerator systems with newer, energy-efficient units. As a result, the demand for services was increasingly related to energy-efficiency purposes prior to the recent recessions. Due to the discretionary nature of these purchases, the demand for replacement services dramatically decreased as the U.S. economy entered into the recession. Over the next five years to 2016, this trend is expected to reverse as the economy improves and energy costs rise. At the same time, the demand for upgrade services is also expected to be supported by Government incentive programs as the Government continues to focus on reducing overall energy consumption within the United States. Energy prices are increasingly becoming an important indicator of industry demand. As energy prices increase, businesses and individuals increasingly install energy-efficient HVAC units in an attempt to reduce operational and living expenses. As energy prices fall, the financial benefits associated with energy-efficient HVAC units diminish, hurting the demand for HVAC upgrade and replacement services. This driver is expected to



increase over the next year. Energy-efficient HVAC units are often costlier than their less efficient counterparts, and during upgrades, these systems frequently replace existing HVAC units that are still properly functioning. As a result, the Government has created financial incentives through tax credit programs to encourage HVAC system upgrades. As these credits increase in value, they create a greater incentive to replace existing HVAC units with energy-efficient ones. The driver is expected to remain constant over the next year.

Security Services

Certification Requirements

The security services industry regulation and licensing varies by state, with individual building codes and regulations defining the minimum level of protection and operation, particularly for fire. The industry also faces regulation in regard to the promotion and advertising of its products. These often require operators to provide rescission rights to customers. Some local Governments have taken measures to prevent false alarms by revoking the permits of repeat offenders. To help comply with these laws, there are a number of industry associations that provide training, research, standards, and other resources for member firms. These include the Security Industry Association, Central Station Alarm Association, and National Burglar and Fire Alarm Association.

Waste Collection

Certification Requirements

Federal regulation of waste management, introduced in the 1970s, coincided with growing environmental concerns. Since that time, the degree of regulation at the federal, state, and local level has been increasing. The Resource Conservation and Recovery Act (RCRA) of 1976 contains the main federal regulations for the industry. Other federal regulations impacting waste management include the Water Pollution Control Act of 1972, the Clean Air Act of 1970, the Toxic Substances Control Act (TSCA), and the Comprehensive Environmental Response, Compensation, and



Liabilities Act of 1980. The RCRA established a regulatory framework for the transportation, treatment, storage, and disposal of hazardous and non-hazardous solid waste. The Clean Air Act regulates emissions of air pollutants and includes emission standards for transportation vehicles, including collection trucks. The EPA and various other federal, state, and local environmental, zoning, health, and safety agencies administer the regulations.

Environmental Regulation

The total volume of waste generated in the United States is projected to grow roughly 1.5% per year through 2016 because of the growing population and increased business and construction activity. The long-term trend in recycling is moving upward. According to figures from the EPA, in 1985, about 16.7 million tons of municipal solid waste (MSW) were recycled, with a recycling rate of 10.0%. The current recycling rate is estimated to be about 35.0%, displaying tremendous growth in recycling from all sources of waste production. In addition to waste collection becoming more environmentally focused through recycling, the fleet of trucks used to collect waste in the United States is set to undergo a gradual transformation to increase its environmental credentials. A number of alternative fuel options have been tested and slowly introduced, with biofuels, hybrid engines, and other solutions (e.g., electric vehicles) likely to become commercially viable during the next five years.



Commercial Opportunities

When determining whether Facilities Maintenance is a commercial service, a few resources were used. First, an RFI (notional) was posted on FedBizOpps.gov to obtain input about contractors' capabilities. One of the questions on the RFI was "do you perform these services in the commercial market place?" Each RFI response submitted to the Government stated that the contractor provides this requirement commercially. We also asked how the contractor prices their service. Each stated that they submit a price backed up by their own market research and business practices and that they have the expectation of competition when they submit their price.

While the RFI was out, four Air Force installations were contacted to determine whether their current Facilities Maintenance contracts were procured using commercial or non-commercial procedures. All four bases had determined, through their own market research, that Facilities Maintenance is a commercial service.

Commerciality analysis can be taken from the MR Report for the following:

Pre-Award:

—ESIS discussion points

—Preparation for an ASP

—Acq Plan sections for Capability or Performance, and Sources

—SP sections on Market Research

—This MR feeds directly into a commercial item D&F if required. Further, it satisfies the original intent of MR under FAR Part 10, determining commercial sources. This determination drives further decisions such as the use of SAP, contract type, and the need for certified cost/pricing data under TINA.



In accordance with FAR (2011) part 2.101,

Commercial Item

(6) Services of a type offered and sold competitively in substantial quantities in the commercial marketplace based on established catalog or market prices for specific tasks performed or specific outcomes to be achieved and under standard commercial terms and conditions. For purposes of these services—

As per the above market research conducted, Facilities Maintenance is a service currently on the commercial market. As previously shown, this service is offered and sold in the commercial market place. The market price used is generally through competition with multiple companies that are independent and free to bargain with the buyer.

After a review of market research and FAR Part 2.101, this procurement is deemed to be a commercial service (MR Report Example Attachment 1: Commercial Item Checklist).

Post-Award:

—Information from this analysis will drive future needs for cost/pricing data on modifications. In this case where it is a commercial item, none would be required.



Industry Standards, Commercial Business Practices

Facilities Management

Type of Contracts: Over the past few years, a move toward performance-based contracts has taken hold in the facilities management industry. Contracts provide incentives for suppliers to drive cost savings and are tiered based on the volume of savings.

Some large, commercial real estate property managers are taking performance-based contracts to another level. For example, there are no specific frequencies for various cleaning tasks; instead, cleaning is done when and where it is needed per a standard. A performance-based contract drives the service providers to become efficient, but it also requires the buying organization to ensure the appropriate quality assurance surveillance plan is in place to monitor performance.

Industry Standards and Commercial Practice analysis can be taken from the MR Report for the following:

Pre-Award:

–ESIS discussion points

–Preparation for an ASP

–Acq Plan sections for Trade-offs, source selection procedures, acquisition considerations, cost, mission capability and special contract terms and conditions.

Knowing these standards and practices helps us determine what we should also be concerned with, such as price vs. management plan, etc., in a best value evaluation to ensure we get the best service for our money. It can also shape how we conduct our source selection and reduce the probability of protest by following generally accepted methods of the industry for contractor selection. Further, it will identify special terms and conditions that may need to be specifically written in Section H of the contract.



To determine industry standards and best business practices for facilities management, a random sample of requirements, using the five NAICS codes, was selected from FedBizOpps.gov to evaluate award criteria, incentives, and factors used in the selection process. Ideally, this information would also be collected (using an RFI) from the service providers relative to their commercial clients. Additionally, the analysis used 2010 spend data from FPDS-NG.

—SSP sections on evaluation criteria and cost or price considerations

—In this case, MR shows that commercial practice would support our use of PBSA contracts.

Post-Award:

—The T&Cs developed for Section H from this analysis may shape the future management and oversight of this service. Special provisions for ordering in the future under IDIQs/ BOAs/ MACCs, etc., may be created from this analysis.

Quality Assurance evaluation criteria may be formed from findings in this MR analysis area that will drive CPARS actions, such as annual evaluations, award-fee and award-term decisions in the future.



The sample collected from FedBizOpps.gov revealed that the typical basis for award in this industry is “best value.” However, the non-cost/price criteria used in the evaluation process varied. The following is a list of common factors used:

1. Cost/Price
2. Past Performance
3. Technical Excellence
4. Compliance with Requirements
5. Management Capability
6. Personnel Qualifications

Typically, price/performance trade-off techniques were used in the best value selection process where past performance was rated as significantly more important than price. In the analysis, there were no examples of incentives used in the acquisition process. The analysis of the 2010 spend data also revealed some interesting facts of how the buyer previously procured requirements that are defined as facilities management. For instance, out of 2,628 requirements, 937 of them were not competed. This may be due to a direct award to small businesses via set-asides. Below is a pie chart showing the extent that requirements for facilities management in 2010 were competed.

Extent of Actions Completed

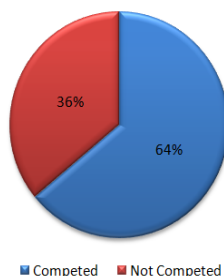


Figure 17. Competed Requirements for Facilities Management in 2010



Industry standards used in source selection decisions can be taken from the MR report for the following:

Pre-Award:

—The list of common factors used in source selection decisions can be used in creating a source selection strategy and help determine the type of source selection: LPTA, PPT, or full tradeoff.

—As well, this information will also feed into Section M of the contract.

Table 8 summarizes the reasons for not competing the requirements.

Table 8. Reasons for Not Competing Requirements

Acronym	Reason Not Competed	# of
BND	Brand Name Description	1
FOC	Follow on contract	4
NS	National Security	2
ONE	Only One Source	68
OTH	Authorized by Statute	796
SP2	SAP Non-competitive	8
STD	Standardization	1
UNQ	Unique Source	39
URG	Urgency	18

In addition, we also looked at the conventional type of solicitation used for awarding requirements for facilities management. The sample of requirements taken from FedBizOps.gov revealed that an RFP was the most common procedure used. The 2010 spend data also showed the same results, as seen in Table 9.

Table 9. Solicitation Procedures

Acronym	Type of Solicitation Procedures	# of
AS	Alternative Sources	22
MAFO	Multiple Award Fair Opportunity	217
NP	Negotiated Proposal/Quote	1244
SB	Sealed Bid	57
SP1	Simplified Acquisition	223
SSS	Only One Source	855

The justification that only one source was available is somewhat high; during our strategy selection, this should be investigated to determine how we can avoid this in future procurements. Nevertheless, this may be a result of

Pre-Award:

—Gives insight on competition used in the industry, for instance, on whether set-asides should be sole-sourced or competed

—As well, reveals if there is enough competition among small businesses or large business



AbilityOne and how the contract administrators coded data into FPDS-NG.

Technology Trends & Technology Insertion Opportunities

All of the services we are consolidating under this contract (custodial, HVAC repair, security, waste, and facilities operations and maintenance) are traditionally labor intensive and low technology fields. Below are just a few examples of technology insertion possibilities for this contract. However, our requirement will be based on a commercial, performance work statement. The prospective contractors may propose any level and combination of technology and manpower that provides the best value to the Government.

Custodial

No real technology insertion possibilities

HVAC Repair

Using diagnostic tools and standardizing all HVAC systems will likely save money. Additionally, remote monitoring systems can improve efficiency and lower total energy costs. However, these upgrades will cost money now that we may not have programmed in the budget.

Security

There are many high-technology items in the field, including facial recognition cameras/software that only allow entry to authorized personnel and badge-reader access systems that allow automated base entry based on

Technology Trend analysis can be taken from the MR Report for the following:

Post-Award:

—Certain acquisitions may call for a spiral development phasing based on the technology trends in the industry.

For Facilities Management, we would most likely have limited technology trends over a common five-year contract term. However, technology insertion opportunities should be considered for future modifications/ equitable adjustments to the contract and may be written in up front so as to allow these insertions/changes without exceeding the scope of the original contract.



personnel ID cards. Both of these options would need higher-level approval to meet force protection requirements and require expensive infrastructure upgrades that are not programmed in the current budget.

Waste Removal

Many communities use trucks with automatic side-loaders that only require one driver for a trash route. Another possibility is energy efficient pick-up vehicles. These trucks are more expensive but save significant labor, energy costs, and time. One other area to improve efficiency involves the use of automatic sorting machines at the sorting point. Because the contractor would own the garbage cans, sorting facility, and trucks, these types of technology insertions would be proposed to meet the PWS requirements. Finally, the Government could allow contractors to propose trash pick-up schedules based on demand instead of a fixed schedule, as long as it meets the PWS requirements.

Facilities Operations & Maintenance

One technology insertion opportunity is the method of maintainer dispatch. Through a robust data/scheduling system linked with each maintenance truck, the dispatch process could be more efficient. Similar to waste management, this improvement would likely be proposed by a contractor in order to meet the PWS requirements.

Small Business analysis can be taken from the MR Report for the following:

Pre-Award:

—ESIS discussion points

—Preparation for an ASP

—Acq Plan sections for sources and competition conditions.

—SSP sections on market research

—Small Business Subcontracting Plan/Strategy

—DD Form 2579

—Consolidation or bundling D&F. In order to satisfy a determination to consolidate or bundle, small business effects and concerns must be addressed. In the case of consolidating Facilities

Management, it is apparent that we will have to work with the SBA and AbilityOne to satisfy both FAR Part 8 and Part 19 responsibilities.



Small Business Opportunities

This analysis focuses on the small business opportunities in all of the CONUS. Furthermore, the CCR and 2010 spend data for all of the CONUS are not the only tools used in this analysis. Market research was also conducted to find additional suppliers that necessarily do not represent just the way things were done with small business in the past. The analysis conducted clearly captures the existing marketplace and small business companies available. Some additional tools used were FedBizOpps, Google, IBISWorld, and other querying tools.

Small businesses and AbilityOne received a large portion of the contract dollars under the current way of doing business. The most important trend in the facilities management market is the trend of organizations consolidating facilities management services into single contracts.

To gain an understanding of the small business opportunities in facilities management, a search in the CCR database was conducted. The results are shown in Table 10, organized by NAICS code.

Table 10. Example of Small Business Opportunities in Facilities Management by NAICS Code

NAICS	# of Small Business	Total # of Business	% of SB
531311	2854	5431	52.55%
561720	8653	9942	87.03%
238220	14288	17957	79.57%
561621	4492	5705	78.74%
562211	1384	2668	51.87%
Total	31671	41703	75.94%

CCR Database

Based on the information above, there are plenty of opportunities with small business in this industry. Seventy-six percent of the firms in the overall industry are considered small businesses. A spend analysis of the 2010 FPDS-NG data was also conducted to



determine the way we previously worked with small business in the past. First, the data was compiled for all five NAICS codes and grouped together to represent our market basket. There were a total of 2,628 requirements and approximately \$470 million dollars spent in 2010 for facilities management. The spend is clearly fragmented with over 655 contractors in 2010. Once the data was compiled, we further examined it to determine the opportunities we took advantage of with Small Business in 2010.

Figure 18 is a pie chart that captures the percent of set-asides that were used in 2010 in facilities management.

Percent of Set-Asides in Facilities Management

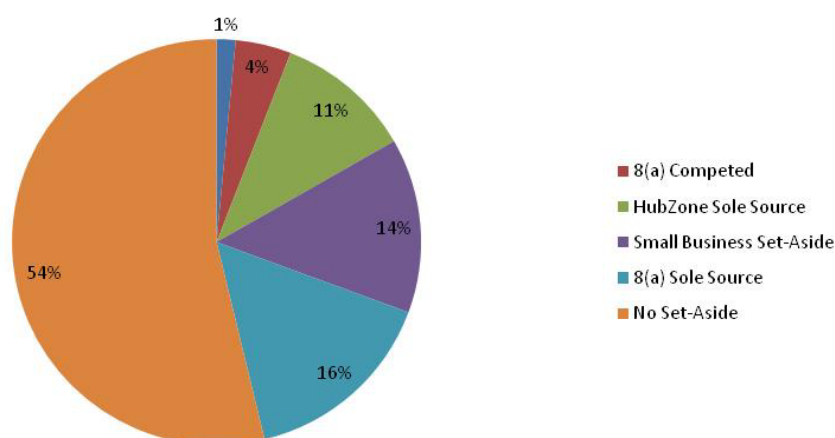


Figure 18. Percent of Set-Asides in Facilities Management

Note. The pie chart represents all five NAICS codes.

Forty-six percent of the requirements for facilities management were set-asides in 2010. Considering that almost half the requirements in 2010 were set-asides, the assumption can be made that there are plenty of chances to work with small business. Additionally, the bar charts in Figures 19 and 20 represent the spend by type of set-aside used (Figure 19) and spend in some of the small business categories (Figure 20).



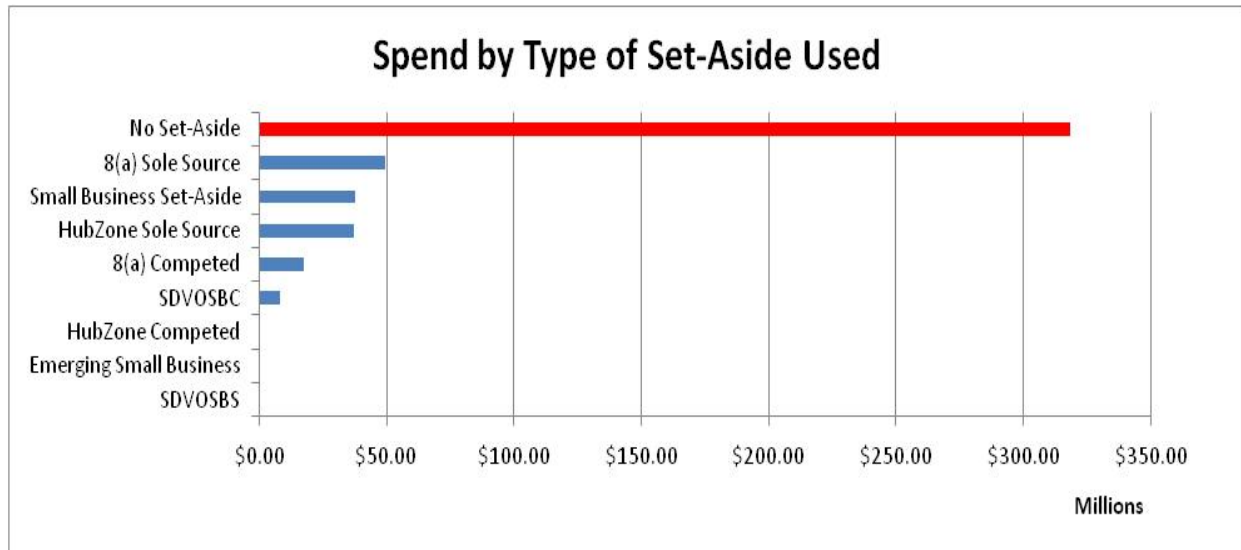


Figure 19. Spend by Type of Set-Aside Used

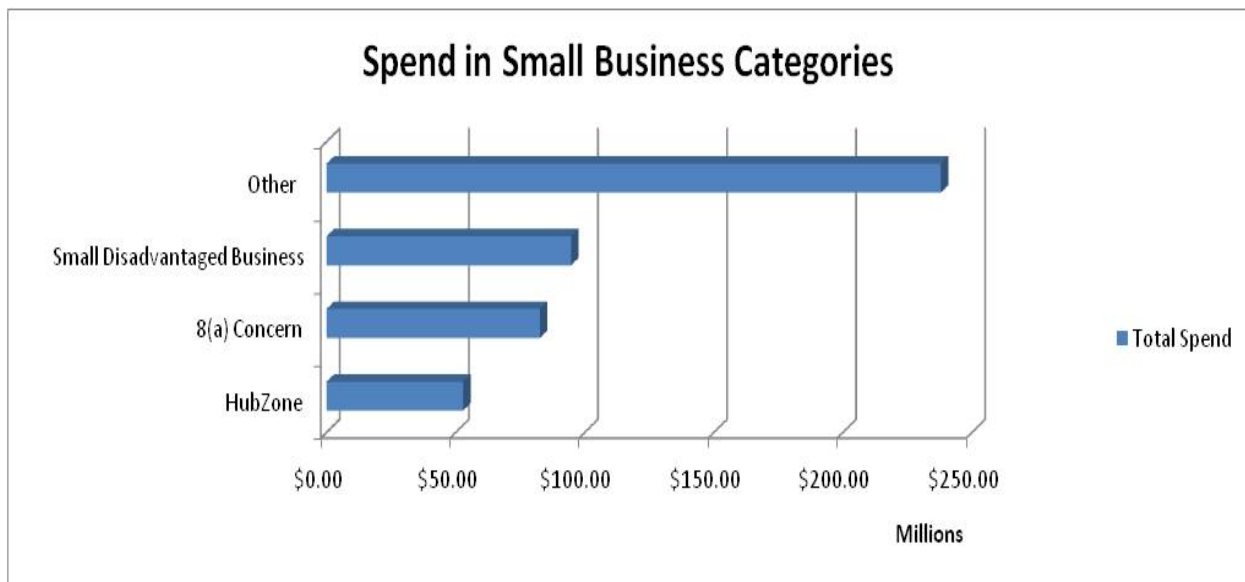


Figure 20. Spend in Small Business Categories

Table 11 summarizes the number of requirements with small disadvantaged businesses, 8(a) concerns, and HubZone firms for facilities management in 2010.

Table 11. Number of Requirements with Small Disadvantaged Businesses, 8(a) Concerns, and HubZone Firms for Facilities Management in 2010

NAICS	Small Disadvantaged Business	8(a) Concern	HubZone
238220, HVAC	349	327	243
531311, Property Management	0	0	0
561621, Security Services	116	90	18
561720, Janitorial	274	213	217
562211, Waste Collection	24	19	9
	763	649	487

2010 Spend Data

One last bar graph was built to depict the top ten companies by spend that were used in 2010. The graph (see Figure 21) clearly shows that a good portion of the money went to large business; however, it also highlights the presence of AbilityOne firms within the industry.



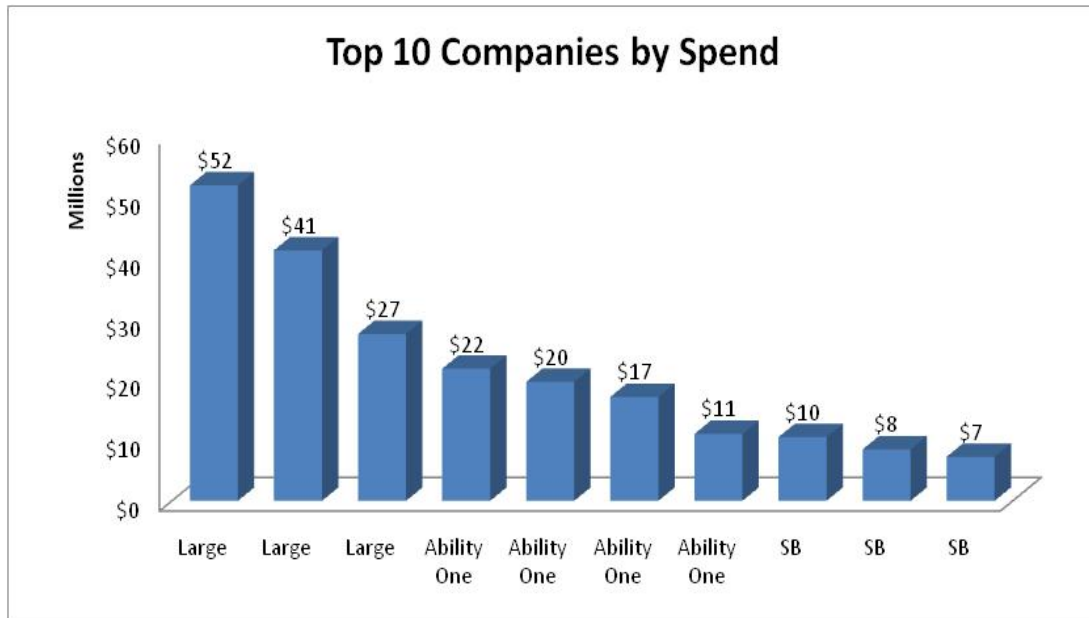


Figure 21. Top 10 Companies by Spend

Based on this analysis, clearly there are opportunities to work with small businesses in this industry.



Terms and Conditions

In this section, we want to discuss any differences between the terms and conditions offered to the Government versus commercial customers. Further, we are identifying standard industry terms and conditions offered to commercial customers in the market place to include the following:

- Warranty options—will include customary commercial warranty decided by current companies supplying the same services.
- Maintenance support—It is customary to provide basic maintenance support as defined by the contract. Any new support will need to be negotiated.
- Financing and discounts—customary practice is to pay for service by month, after service is provided. There is no customary buyer contract financing for this requirement.
- Marking and packaging—all hazardous chemicals will need a MSDS label and the contractor will need to keep a log.
- Inspection and acceptance processes—Contracts for commercial items shall rely on contractors' existing quality assurance systems as a substitute for Government inspection and testing before tender for acceptance unless customary market practices for the commercial item being acquired include in-process inspection. Any in-process inspection by the Government shall be conducted in a manner consistent with commercial practice. It is customary to re-accomplish the services found not to be acceptable. It is general commercial practice for the contractor to submit an inspection plan.

Terms and Conditions analysis can be taken from the MR Report for the following:

Pre-Award:

—ESIS discussion points

—Preparation for an ASP

—Acq Plan sections for special terms and conditions.

This information derives from findings from analysis described in all previous sections of the MR report. This will help you determine common and special T&Cs for both Sections I and H of the solicitation and contract.



- Insured/bonded/licensed—All contractors are licensed in the state in which they are located and expected to comply with federal laws if doing business with the Government. If they do business with the Government, they are also required to comply with the insurance requirements in FAR Part 28.
- Terminations—It is customary, specifically in custodial services, that the buyer can terminate the contract with an average of 30–90 day notification. This does not conflict with the Government’s right to terminate commercial services.
- Unique Conditions—Part of Facilities Maintenance is security alarm systems. Currently, there are companies that fall under the Support Anti-terrorism by Fostering Effective Technologies (SAFETY) Act. If we determine that the technology to be acquired may qualify for SAFETY Act protection, we are responsible for requesting a pre-qualification designation notice from DHS.

Post-Award:

—These T&Cs will facilitate post-award actions and requirements by the Government and contractor.

Warranty terms can help remedy unsatisfactory performance after the contract term has expired. Financing concerns will drive how payments are made to the contractor during post-award administration, etc.



Government's Presence/Leverage in the Market Leverage

Leverage

The Government as a whole is not in a strong position of leverage in the facilities management marketplace. The Government's share of the market for custodial services is slightly less than 1% with a much smaller share for the remaining four industries (Moldvay, 2012). But in a given local area, the Government may be the dominant buyer and have relative power and leverage over the market, placing the buyer in the upper left quadrant of the Cox Power Matrix (see Figure 22). For a more detailed description of how to apply the Cox Power Matrix to different requirements, see Appendix B.

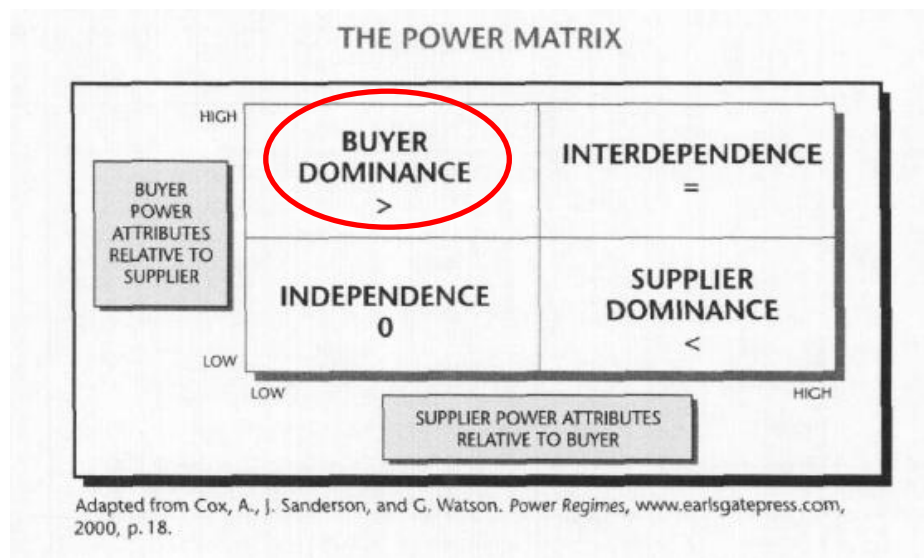


Figure 22. Cox Power Matrix

Market Participants

Each of the marketplaces for the five main facilities management industries is different and needs to be analyzed separately. First, the property management industry is mostly comprised of residential property management services, which take up about half the market, with commercial property management taking up about a quarter. Next, the custodial services industry is dominated by office cleaning, followed by healthcare facilities with a much smaller share of the market. The security service industry consists



of almost three-quarters security guard services, with the rest going to investigation services and armored car services. Finally, the waste collection services are almost evenly split between commercial, industrial/construction, and residential collection.

Purchasing Portfolio Matrix

When analyzing the Government's spending on facilities management services, we can see from the Porter's five forces analysis that there are many capable suppliers in all five of the industries. This, combined with the fact that facilities management services are not critical to the central mission of the buyer, places the spend in the non-critical category (see Figure 23). Because the spend is non-critical, the buyer should leverage its buying power to achieve a lower price and solid performance.

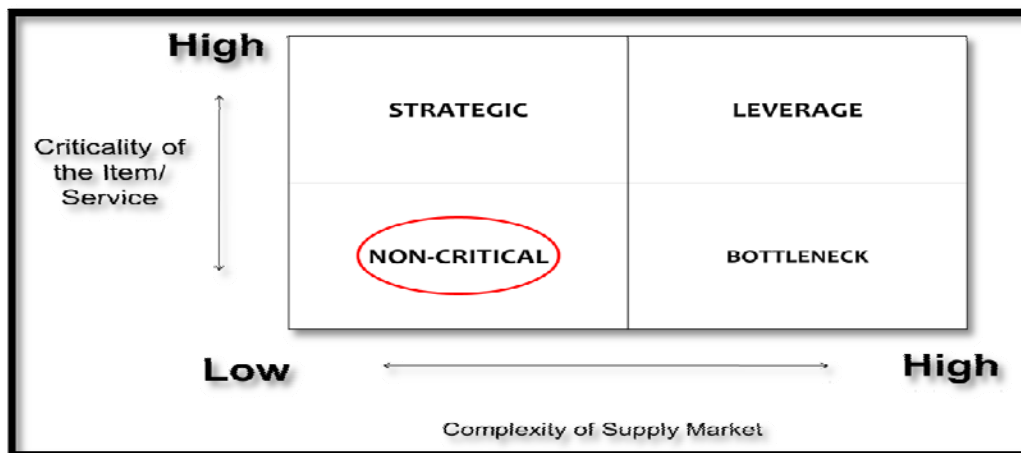


Figure 23. Purchasing Portfolio Matrix

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When we examine (notional) the facilities management services marketplace (NE region), we see that the Government's strength in the marketplace is high, but at the same time, the suppliers' strength is also low due to the large number of suppliers. This means that this is neither an area of opportunity nor an area of vulnerability. Therefore, we should pursue a strategy that applies pressure to the supply base to reduce costs (exploit) while assessing the supply risks and deriving the basic strategy. For a more



detailed description of how to apply the PPM for different requirements, see Appendix B.

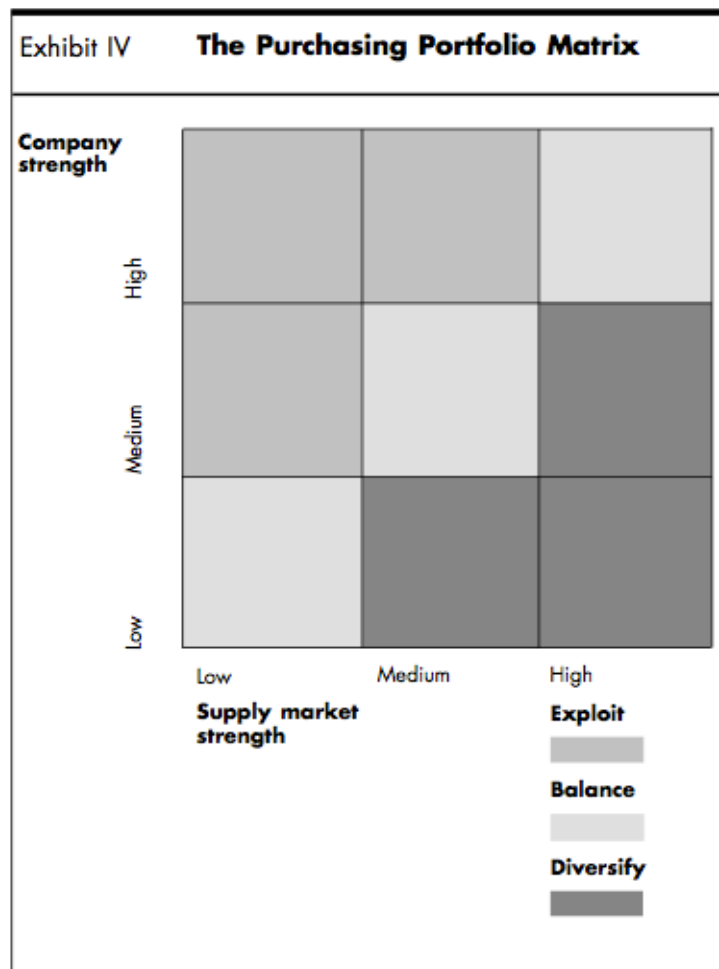


Figure 24. The Purchasing Portfolio Matrix

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Market Report Summary & Recommendations

In summary, this market research analysis has shown us that there are multiple industry considerations to incorporate into our acquisition planning process starting with the ESIS, ASP, Acquisition Plan, Source Selection Plan, Small Business Plan, and Consolidation D&F. These findings should translate into the final RFP, Performance Plan, and resultant contract administration. It is obvious that Facilities Management (as



we have defined it) is an aggregation of five services that are typically achieved through firm-fixed priced, performance-based service contracts. Facilities Management is found to be a commercial service and the instructions at FAR (2011) Part 12 should apply. Based on the aggregate value of this contract, the SAP of FAR Part 13.5 may be used to the maximum extent up to \$6.5 million. Evaluation of the AbilityOne capabilities and small business capabilities leads us to conclude that AbilityOne should be the first contact for acquisition planning of this requirement after the ESIS.

Recommendations

Sourcing: Contact AbilityOne for sourcing capabilities for a regional contract in Facilities Management for all facilities in the North East region.

Contract Type: Performance-based FFP with the notional CLIN structure shown in Table 12.

Table 12. Notional CLIN Structure

<u>Description</u>	<u>CLIN #</u>	<u>CLIN TYPE</u>	<u>Unit of issue</u>
Property Management	0001	FFP	Month
Custodial	0002	FFP	Sq Ft
HVAC-Recurring Maint.	0003	FFP	Month
HVAC-Parts	0004	FFP-EPA-NTE	Lot w/ attached price list
HVAC-Emergency Calls	0005	FFP-NTE	Hours (1 Hr given for call at min.)
Security Services	0006	FFP	Month
Waste Collection-Wet	0007	FFP	Lbs of Wet Waste
Waste Collection-Dry	0008	FFP	Lbs of dry recyclables

Evaluation Criteria: Lowest-price technically acceptable (LPTA) should be considered in the resultant Acquisition Plan.



Market Research Techniques Used

In this MR report, we used information collection methods such as CCR, FBO, FPDS-NG, and internet searches to aggregate information on small businesses and vendor analysis. We used reports from both IBISWorld.com and SIG.org to compile information for an industry analysis. To aid in industry analysis, we used tools from Appendix B of the subject Market Intelligence Guide. Some of the information in this MR report is factual and some is notional. The intent is to show how applying robust, intellectual tools for information gathering and analysis can shape a better acquisition life cycle for large strategic acquisitions.



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Conclusion and Recommendations

The importance of thorough market research cannot be overstated. Market research informs both pre- and post-award processes and decisions, and therefore has a direct, lasting impact on the quality of the product or service the Government receives and the price it pays. The primary purpose of market research is to arm the acquisition team with an accurate sight picture of the state of industry, to help assess the feasibility of varying procurement options, to identify potential sources of supply and services, to identify and mitigate risks, and to be cognizant of similar historical procurements.

Currently, there is a handful of guides and tools to conduct market research, but they are lacking in one or more respects—they are either vague or lacking sufficient detail or examples, more prescriptive than descriptive, too lengthy - and therefore not used, and often ignored by the majority of acquisition professionals. Additionally, prior market research guides are not well circulated; most acquisition professionals are unaware of their existence.

Furthermore, Government acquisition personnel tend to follow a “needs-based” archetype for market research. The acquisition team first determines the need by working with the user to refine the definition of the requirement to come to a common understanding in a process known as “requirements definition,” and then cross-checks the need against existing sources of supplies or contracts (in accordance with FAR Part 8, as applicable), vendor lists, and previous purchases, as well as consulting with the Small Business Office as applicable. When the initial market research is completed, the team should use the information acquired to develop the Acquisition Plan and to create a suitable contract structure based on appropriate evaluation criteria relevant to the acquisition. When properly applied, market research is a powerful pre-award tool, although market research should not stop after the award of a contract.

Market Research is an iterative process and should be applied over the entire life cycle of an acquisition. Rather than a reactive stance to market research, a more optimal solution involves a continual, proactive approach which yields better contracts,



more fluent contract administration, and provides acquisition teams the leverage they need to obtain the best value for the Government. To obtain the benefits of market research, a shift in the current culture of acquisition professionals is required. As this guide has proposed, the current idea of market research should be replaced by a new idea, that is, Market Intelligence.

The academic models presented herein (i.e., Porter's five forces, Kraljic's PPM, Cox Power Matrix, etc.) help shape the buyer's understanding of any given market sector (and the Government's position as a customer in that sector) to a far greater degree than any blind, cursory review of vendor listings and previous contracts. However, market research models and tools are only as valuable as the effort put into using them. Historically, anecdotal evidence shows that far too often, market research is underscored by limited effort and documentation to comply with the general requirement to conduct it as mandated by the FAR, which results in another box to check on a lengthy list of mandated pre-award tasks. Fully realized, market research/market intelligence can better inform critical acquisition processes such that the government realizes meaningful differences in needed outcomes. This leads us to our recommendations for the use of this guide in the context of future market research efforts.

To become proficient at gathering, disseminating, and responding to market intelligence, greater attention is needed. Currently, market research is a stepchild in Federal acquisition; it is not resourced commensurate with its importance in affecting contracted needs. We offer a short list of ideas to enable a stronger infusion of market intelligence into acquisition decisions.

- Create a central repository of market reports searchable by NAICS code and by date. This will help acquisition teams to share gained knowledge and prevent the duplication of effort.
- Stand up a small central market intelligence cell staffed with experts in certain industries who are available to generate market analyses to acquisition teams.



- Budget for market intelligence such as that found in syndicated and customized market reports (e.g., Gartner Group, Hoovers, Dun and Bradstreet Supplier reports, IBISWorld, and the Sourcing Interest Group)
- Develop a course available from the Defense Acquisition University that teaches best practices in market research by walking the students through a case study where market intelligence made the difference in efficiency and effective contractor performance

This guide is not without limitations. First, it does not provide all desired attributes shown in the attribute map in Figure 1 (such as providing an on-line interactive tool). Second, it provides examples that rely heavily on the fidelity of spend data from sources such as FPDS-NG that have been criticized by the GAO as providing limited and/or incorrect information. Third, the guide does not provide examples of all documents and decisions that are constructed from market research aside from the sample market research report itself. However, the guide presents methods, examples, and considerations that can be used to develop an on-line, interactive market research resource architecture, construct other documents such as acquisition plans and requests for information, and press the need for a higher fidelity procurement database that, like industry, focuses on NAICS rather than on PSC codes.



MR Report Example Attachment 1: Commercial Item Checklist

Commercial Item Determination Per FAR 2.101

Checklist

Services

1. **Services in Support of a Commercial Item:** Is this for installation, maintenance, repair, training or other services of a commercial product? Yes ____ No X
 - a. If yes, are the services in support of commercial items defined as commercial in the Supplies Checklist (Section A) above? Yes ____ No X If yes, describe how the items were determined to be commercial and the services to be provided in support of the commercial item and continue.

Does this company provide similar services contemporaneously to the general public under terms and conditions similar to those we are getting? Yes X No ____ If yes, give examples or describe how you verified this.
[If 5a and 5b are BOTH yes, this service is a commercial item. You may stop now and put your commercial services determination/documentation in the file.]
2. **Standalone Commercial Services:** If either 5a or 5b is “NO”, is this a service of a type offered and sold competitively in substantial quantities in the commercial marketplace BASED ON ESTABLISHED CATALOG OR MARKET PRICES FOR SPECIFIC TASKS PERFORMED OR SPECIFIC OUTCOMES TO BE ACHIEVED using standard commercial terms and conditions? Yes X No ____

If no, this is not a commercial item and do not use FAR Part 12 procedures. If yes, describe the specific tasks/outcomes to be achieved and, in accordance with Paragraph a. or b. below, document how the service is sold and priced (e.g. catalog or market price) as well as how you confirmed the information.

[This will constitute your commercial services determination for the file.]

- a. **Catalog-Priced Services:** “Catalog price” means a price included in a catalog, price list, schedule, or other form that is regularly maintained by the manufacturer or vendor, is either published or otherwise available for inspection by customers, and states prices at which sales are currently, or were last, made to a significant number of buyers constituting the general public. Include relevant information gleaned from your market research to document your validation of the catalog price:



- i. Attach a copy of or identify the catalog and its date or the appropriate pages for the offered service tasks/outcomes. Include a description of the current discount policies and of the price lists (are they published or unpublished, available for inspection by customers, and do they state prices at which sales are currently or last made); and
 - ii. Explain the basis of each commercial service item price in the Government estimate and its relationship to the established catalog price, including how the commercial price relates to the price of recent sales in quantities similar to the proposed quantities sought by the Government.
- b. **Market-Priced Items:** “Market prices” means current prices that are established in the course of ordinary trade between buyers and sellers free to bargain and that can be substantiated through competition or from sources independent of the offerors. Include relevant information gleaned from your market research to document your validation of the market price:
 - i. Provide the source and date or period of the market quotation or other basis for the commercial market price, the base amount, and applicable discounts that may be expected; and
 - ii. Describe the nature of the market. For example, will the instant procurement establish the market price through competition? If so, describe the extent of the competition expected.

NOTE: An item or combination of items from 1–6 above transferred between or among separate divisions of a contractor or non-developmental items sold in substantial quantities competitively to multiple state or local Governments may also be considered commercial items.



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Appendix A: MR/MI Source List

Sourcing Lists

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Introduction

This section has source lists for acquisitions and various industries, including the best sources for market research sources, market reports, professional associations, consultants, and social media sites. Most of the market reports require a site subscription or individual purchase. The social media sites and professional associations are valuable sources of general market information.

General Acquisition Information

DAU Defense Acquisition Portal— <https://dap.dau.mil/Pages/Default.aspx>

Provides links to current DoD acquisition policies and processes as well as the PM Toolkit and links to DAU's training.

DPAP— <http://www.acq.osd.mil/dpap/>

Provides current DoD acquisition policies. The policies are separated by acquisition type, and the site is a vital source for policy information.

DoD Acquisitions— <http://www.acq.osd.mil/>

Provides updated policy and news from USD(AT&L). The site also has links for knowledge sharing sites for existing programs that would be very useful in the early stages of a new acquisition.

Air Force Acquisitions— <http://ww3.safaq.hq.af.mil/>

Provides good general information about the Air Force acquisition organization with links to other sites including Air Force contracting and the AFPEO/CM.

Air Force Contracting— <http://ww3.safaq.hq.af.mil/contracting/>

Source for information exchange, labor law information, and other “business center” links.

Army Acquisitions— https://www.alt.army.mil/portal/page/portal/oasaalt/Bio_AAE

Provides links for Army Acquisition, Logistics and Technology Knowledge and other Army acquisition updates.

Army Contracting—

<http://www.army.mil/info/organization/unitsandcommands/commandstructure/acc/>



Provides news and policy updates from the Army Contracting Command.

Marine Corps Acquisitions—

<http://www.marines.mil/unit/marcorsyscom/Pages/MCSC-Level01.aspx>

Provides information on USMC programs with tools useful for any DoD agency.

Navy Acquisitions— <https://acquisition.navy.mil/>

Provides links to Navy programs and updated policies, procedures and guidance.

Ability One— <http://abilityone.org/>

Provides information about the Ability One federal initiative program.

General Sourcing List

Market Research Sources & Market Report Sources

<http://www.aberdeen.com/>

- Research reports in IT, supply chain management, communications, service management and product innovation. Reports can be purchased individually or through a site subscription.

<http://www.bizminor.com>

- Reports by industry (\$99 per report)

<http://www.capsresearch.org/>

- Excellent market basket research reports (to include the average prices paid within an industry) including maintenance, repair & operations (MRO), office supplies, printing services, and general IT. Site subscription required.

<http://www.census.gov/econ/susb/>

- The data is calculated by geographic area, industry, and enterprise employment size. Industry classification is based on 2007 North American Industry Classification System ([NAICS](#)) codes.

<http://www.dnbgov.com/>

- D&B offers specialized service focused on risk managements and decision support tools. It has a Government version (dnbgov) that offers



reports such as the Federal Information Report, the Comprehensive Report, or the Patriot Act Report as well as company reports and monitoring alerts.

<http://www.epipeline.com/>

- Monitors federal contracts, including “cradle to grave” intelligence on high-value federal re-compete bids
- Researched Federal Contracts & Federal Business Opportunities
- Comprehensive Federal Agency Market Intelligence
- Federal Procurement Data System (FPDS) Plus History on Federal Contracts and Custom Reports on Federal Government Contracts

<http://www.firstresearch.com/>

- A comprehensive market analysis on more than 900 top industry segments. Reports by NAICS (subscription).

<http://www.forrester.com/rb/research>

- A research company that does custom research reports, consumer insight, and consulting in IT and technology markets. A small amount of free research is available on the site, but most must be purchased.

https://www.gsaadvantage.gov/advantage/main/start_page.do

- GSA Advantage is the Government's central online shopping superstore. It provides online access to millions of products and services from thousands of federal contractors.

<http://www.hoovers.com/>

- This site provides relevant information for market research such as company profiles, industry profiles, contact information, targeted lists with filters including NAICS and SIC codes, etc.

<http://www.ibisworld.com/industry/home.aspx>

- Reports that provide strategic insight and analysis on over 700 U.S. industries. Allows one to search Industry Reports by NAICS (subscription required).

<http://www.marketreportsonline.com/>

- An online library of 50,000 reports, in-depth market research studies of over 5000 micro markets, and 25 industry specific websites.



<http://www.marketresearch.com>

- A very well known site for access to market reports.

www.researchandmarkets.com

- A large repository of market research reports for many industries.

<http://www.sig.org/i4a/pages/index.cfm?pageid=1>

- A wide range of market research reports for over 70 industries including IT, facilities management, security, and construction, to name a few. A site membership is required.

<http://usaspending.gov/>

- USAspending.gov receives and displays data pertaining to obligations (amounts awarded for federally sponsored projects during a given budget period).

Social Media, Professional Organizations, and Consultants

- **Project Management Institute**— <http://www.pmi.org/>
International association for project management professionals
- **National Contract Management Association**— <http://www.ncmahq.org/>
Association for contract management professionals
- **Program Management on Facebook**—
<http://www.facebook.com/#!/pages/Program-Management-Professional/144633635550817>
- **Contract Management on Facebook**—
<http://www.facebook.com/#!/pages/Contract-management/108004712553139>
- **The International Association for Contract & Commercial Management**— <http://www.iaccm.com/>
Helps develop innovation, best practices, and operational excellence within their organizations
- **ISM (the Institute for Supply Management)**— <http://www.ism.ws/>
A supply management association. It offers access to industry reports and data as well as a Supplier Selection and Risk Assessment Tool and a Purchasing & Supply Sourcing Guide.



- **The Institute for Public Procurement**— <http://www.nigp.org/eweb/>
Developing, supporting, and promoting the public procurement profession through premier educational and research programs
- **Purchasing Management Association of Canada**—
<http://www.pmac.ca/>
Offers training, education and professional development for supply chain and purchasing professionals

Products

Information Technology Products & Services

Market Research Sources & Market Report Sources

NETCENTS-2 Contract— <http://www.netcentsii.com>

The Air Force's Network Centric Solutions-2 (NETCENTS-2) contract consists of a collection of acquisitions that will replace the current NETCENTS contract vehicle with eight separate indefinite delivery, indefinite quantity (IDIQ) contracts. The Scope of the contract is to provide the Air Force, Department of Defense (DoD), and other Federal Agencies with a primary source of networking equipment/product supply and a means of system engineering, installation, integration, operations, and maintenance for a family of DoD adopted commercially standardized networking solutions that are interoperable with Air Force, Joint, and DoD Standardized Networking Technical Architectures.

AFWay— <https://www.afway.af.mil>

The Air Force's mandatory source to buy all computers and many other computer peripherals but they also offer many Information Technology (IT) hardware and software solutions.

NASA's SEWP contract— <http://www.sewp.nasa.gov>

The SEWP (Solutions for Enterprise-Wide Procurement) GWAC (Government-Wide Acquisition Contract) provides the latest in Information Technology (IT) products for all Federal Agencies.

GSA Networkx Contract— <http://www.gsa.gov/portal/content/101612>

This provides a broad range of IT services and solutions through GSA contracts.

Computer Hardware Retail Market in the U.S. by Datamonitor— <http://www.marketresearch.com/product/display.asp?productid=2553248>

Datamonitor's retail databooks are based on key market value data for eight major product sectors, 20 product markets, 16 core retail distribution channels, and 62



countries. This profile focuses on the computer hardware retail market in the U.S. and provides current and forecast data on market value in relation to the parent retail sector and total retail within the country.

IT Consulting in the U.S. by IBISWorld—

<http://www.ibisworld.com/industry/default.aspx?indid=1415>

In-depth industry market research presented in a logical and consistent format. This report includes 43 pages of insights covering industry conditions, key statistics, competitor analysis and market share, product and customer segmentation, and a 5-year forecast. The cost is \$910.

IT Service Management Professionals Association (IT-SMPa)—

<http://www.itsmpa.org>

An association promoting and advancing service management through education, research, peer networking, community involvement, and application of methodologies for the benefit of all businesses who aspire to drive efficiencies through the rigors of applied SM process and practices.

Gartner Group— <http://www.gartner.com/>

Gartner is the world's leading information technology research and advisory company. They deliver technology-related insights necessary for their clients to make good decisions.

Social Media, Professional Organizations and Consultants

Association of IT Professionals (AITP)— <http://www.aitp.org>

An association of information technology professionals focused on providing a community of knowledge, education, and resources that will empower its members to reach their true potentials as IT business professionals.

The Network Professional Association (NPA)— <http://www.npa.org>

Their purpose is to support the network computing professional and the ideals of an empowered, continually developing, professionally certified, educated, and experienced IT practitioner.

Facebook Group—Association of IT Professionals (AITP)—

<http://www.facebook.com/group.php?gid=2207651916>

IT Service Management Forum (itSMF)— <http://www.itsmfi.org>

This is a not-for-profit organization that is an independent and internationally-recognized forum for IT Service Management professionals. They are a prominent player in the ongoing development and promotion of IT Service Management “best practice,” standards and qualifications.



Linked In Group—IT Service Management Professionals Association (IT–SMPa)—
<http://www.linkedin.com/groups/IT-Service-Management-Professionals-Association-82913>

Office Solutions

Market Research Sources & Market Report Sources

<http://www.epipeline.com/mktng/nl-articles/naics-code-541330.html>

- Monitors federal contracts, including “cradle to grave” intelligence on high-value federal re-compete bids
- Researched Federal Contracts & Federal Business Opportunities
- Comprehensive Federal Agency Market Intelligence
- Federal Procurement Data System (FPDS) Plus History on Federal Contracts and Custom Reports on Federal Government Contracts

<http://www.marketreportsonline.com/48149-ikon-office-solut.html>

- An online library of 50,000 reports, in-depth market research studies of over 5000 micro markets, and 25 industry specific websites

<http://www.firstresearch.com/search.aspx?naics=332212>

- A comprehensive market analysis on more than 900 top industry segments. Reports by NAICS (subscription)

Social Media, Professional Organizations and Consultants

Facebook

- <http://www.facebook.com/pages/Office-Solutions/186175791404969>

Twitter

- <http://twitter.com/#!/OfficeSol>

Federal Acquisition Service (FAS)/General Service Administration (GSA)



Building & Industrial Supplies

Market Research Sources & Market Report Sources

Social Media, Professional Organizations, and Consultants

- Industrial Supply Magazine—
<http://www.industrialsupplymagazine.com/pages/Resources---Distributor-trade-associations.php>
- American Machine Tool Distributors—
<http://www.amtda.org/website/article.asp?id=560>
- Industrial Supply Association— <http://www.isapartners.org/>
- International Sealing Distribution Association—
http://isd.associationdatabase.com/aws/ISD/pt/sp/Home_Page
- Material Handling Equipment Distributors Association—
<http://www.mheda.org/i4a/pages/index.cfm?pageid=1>
- Association for Hose and Accessories Distribution— <http://nahad.org/>
- FDPA— http://fpda.org/aws/FPDA/pt/sp/home_page
- Safety Equipment Distributors Association— <http://safetycentral.org/>
- National Lumber and Building Material Dealers Association—
<http://www.dealer.org/i4a/pages/index.cfm?pageid=1>
- North American Building Material Distribution Association—
<http://www.nbmda.org/>
- Specialty Tools & Fasteners Distributors Association—
<http://www.indsupply.com/stafda>

Medical & Lab Supplies

Market Research Sources & Market Report Sources

https://www.gsaadvantage.gov/advantage/main/start_page.do

- GSA Advantage is the Government's central online shopping superstore. It provides online access to millions of products and services from thousands of



federal contractors. Under its “Laboratory, Scientific, & Medical” directory, it has a search engine with useful tools such as Small Business, FSSI products, etc.

<http://www.ism.ws/>

- The ISM (Institute for Supply Management) is a supply management association. It offers access to industry reports and data as well as a Supplier Selection and Risk Assessment Tool and a Purchasing & Supply Sourcing Guide.

<http://www.hoovers.com/>

- This site provides relevant information for market research such as company profiles, industry profiles, contact information, targeted lists with filters including NAICS and SIC codes, etc.

<http://www.dnbgov.com/>

- D&B offers specialized service focused on risk management and decision support tools. It has a Government version (dnbgov) that offers reports such as the Federal Information Report, the Comprehensive Report, or the Patriot Act Report as well as company reports and monitoring alerts.

<http://www.g2intelligence.com/Research?C=ruPWshKCCS2wR>

- A source for reaching up-to-date reports regarding Market Trends & Analysis, Market Profile & Pricing Trends, Test Volumes, Revenues, and Category Leaders.

<http://www.aarkstore.com/>

- Has one market report revealing basic marketing data pertaining to the U.S. and worldwide market segments of the disposable medical supplies market.

<http://www.electronics-ca.com/categories/Medical-Equipment-and-Supplies/>

- Market reports on micromarkets on particular items. Each report is priced \$4000–\$4500, on average.

http://www.pharmaceutical-market-research.com/publications/medical_supplies/index.html

- Hundreds of information products, including market research, covering the global medical supplies industry. Few of them are relevant and useful for DoD purposes.

<http://www.marketresearch.com>



- A very well-known site for access to market reports. Keyword “medical equipment” brings more than 6000 results. A detailed analysis is required to filter the relevant reports.

https://www.espicom.com/ProdCat2.nsf/Product_Alt_URL_Lookup/medical_device_market_USA?OpenDocument&BCID=00000018

- A market report on the U.S. medical device market analyzing the opportunities and challenges from the industry perspective.

<http://www.ibisworld.com/industry/default.aspx?indid=932>

- An industry report on Laboratory Supply Wholesaling in the U.S.

<http://www.ibisworld.com/industry/default.aspx?indid=881>

- An industry report on Medical Instrument & Supply Manufacturing in the U.S.

<http://www.ibisworld.com/industry/default.aspx?indid=930>

- An industry report on Medical Supplies Wholesaling in the U.S.

<http://www.bizminer.com/industries/Medical-Equipment-and-Supplies-Manufacturing-3391/industry-financial-profiles/preview.php?years=5&salesClass=1>

- BizMiner is a tool for industry reports and industry financial analysis. There is a very recent report on Medical Equipment and Supplies Manufacturing industry (June 2011).

Social Media, Professional Organizations and Consultants

<http://www.laboratoryequipmentworld.com/>

- Access to supplier lists and associations' links

<http://www.laboratoryequipment.com/Basic-Lab-Equipment-Directory-Listing.aspx>

- Access to suppliers by category (product/services offered)

<http://www.imcoinc.com/>

- Independent Medical Co-Op. It is an association of medical supply distributors.

<http://www.lpanet.org/i4a/pages/index.cfm?pageid=1>

- Access to suppliers by category (product/services offered). Members can reach market reports and surveys.

<http://www.aami.org/>



- Association for the Advancement of Medical Instrumentation. Offers Standards, Recommended Practices, and Technical Information Reports for medical devices.

Security & Fire

Market Research Sources & Market Report Sources

www.freedoniagroup.com

- World Security Equipment to 2014—This site produces reports in many market segments. The report for security is \$6,100, but you can purchase reports by the page for about \$30.00. It includes World Security Demand, Environment, Social Trends, Regional Supply and Demand, Technology Trends, and top contractors for security equipment.

www.militaryfactory.com and www.militaryspot.com

- Both of these websites provide descriptions of all the weapons used for security in the military to include specifications.

www.usfa.dhs.gov/

- The U.S. Fire Administration is an entity of the Department of Homeland Security's Federal Emergency Management Agency. The mission of the USFA is to provide national leadership to foster a solid foundation for our fire and emergency services stakeholders in prevention, preparedness, and response.

www.thebigredguide.com

- Their content includes a comprehensive catalogue of firefighting equipment and fire protection products, industry news, an extensive company directory, and a calendar of fire industry trade shows and events. Their comparative product database is unrivalled globally, providing a unique tool for researching and sourcing fire equipment.

www.researchandmarkets.com

- The Fire Apparatus Manufacturing Industry in North America search under this website gives information for all fire equipment, major industry challenges and outlook, market analysis, and a list of company profiles.

Social Media, Professional Organizations and Consultants

www.amfire.com



ACQUISITION RESEARCH PROGRAM
GRADUATE SCHOOL OF BUSINESS & PUBLIC POLICY
NAVAL POSTGRADUATE SCHOOL

- American Firearms—This is the World's Largest and Oldest Associations for Firearms Retailers. The website is for the American Firearms Industry Magazine that is the only trade publication that covers all of the Federally Licensed Firearms Dealers in addition to over 800 industry related manufacturers. Subscriptions are \$35.00 per year

www.ndia.org

- The National Defense Industrial Association (NDIA) is America's leading Defense Industry association promoting national security. NDIA is proud to provide a legal and ethical forum for the exchange of information between Industry and Government on National Security issues. Our members foster the development of the most innovative and superior equipment, training and support for our warfighters and first responders through our divisions, local chapters, affiliated associations and events. The membership is free for the Government.

www.siaonline.org

- Security Industry Association: This association protects and advances members interests by
 - advocating pro-industry policies and legislation on Capitol Hill and throughout the 50 states;
 - producing leading-edge global market research;
 - creating open industry standards that enable integration;
 - advancing industry professionalism through education and training; and
 - opening global market opportunities.

www.femalifesafety.org

- The Fire Equipment Manufacturer's Association represents the industry's top global manufacturers of fire protection equipment. Their site features essential tools for commercial fire protection. They are on Facebook.

www.nfpa.org

- The National Fire Protection Association. The mission of the international nonprofit NFPA, established in 1896, is to reduce the worldwide burden of fire and other hazards on the quality of life by providing and advocating consensus codes and standards, research, training, and education. The world's leading advocate of fire prevention and an authoritative source on public safety, NFPA develops, publishes, and disseminates more than 300 consensus codes and standards intended to minimize the possibility and effects of fire and other risks.



www.fama.org

- Fire Apparatus Manufacturers' Association. The Fire Apparatus Manufacturers' Association (FAMA) is the association of choice most committed to enhancing the quality of the emergency service community through the manufacture and sale of safe, efficient emergency response vehicles and equipment. There is a really helpful buyer's guide that lists the contact information for 125+ vendors as well.

Aircraft Parts

Market Research Sources & Market Report Sources

OPM Research— <http://www.opmresearch.com/index.html>

According to the website, "The report covers the key websites which facilitate the trading, procurement and listing of aircraft parts. We provide not only a synopsis of their key capabilities and policies, but the results from a survey of the Aviation industry on their usability and how customers view these sites. This in-depth survey covered many aspects of twenty (20) of the aviation industries most-used websites/Marketplaces. We also delve into emerging industry trends to be aware of such as RFID, electronic forms (eForms), and Software-as-a-Service (SaaS)." Cost: \$199

ReportLinker— <http://www.reportlinker.com/p0574775-summary/Aircraft-Engine-and-Engine-Parts-Manufacturing-Industry-in-the-US-and-its-International-Trade-Q3-Edition.html>

According to the website, "This 2011 publication of Aircraft Engine and Engine Parts Manufacturing Industry report is the comprehensive market research guide for the industry. It contains the latest information on the industry's key financial data, competitive landscape, cost and pricing, and trends during the current environment, including the output and shipment changes over the past months." Cost: \$799

CompaniesandMarkets.com— <http://www.companiesandmarkets.com/Market-Report/aerospace-product-and-parts-manufacturing-us-market-research-profile-3364-629447.asp>

According to the website, "This statistical 3-year time series report examines industry data trends for calendar years 2008–10. Measures for each report include industry market volume, average company size and small business sales, failure and startup rates, sales per employee, market share by employment class and other critical market research measures." Cost: \$99



MarketResearch.com—

<http://www.marketresearch.com/product/display.asp?productid=6382161>

This 10-page report provides a general overview of the aircraft parts market in the United States. It includes an industry overview, business challenges, business trends, industry opportunities, financial information, and industry forecast. Cost: \$129

Social Media, Professional Organizations and Consultants

Aerospace Industry Association (AIA)— <http://www.aia-aerospace.org/>

—Membership: \$3,000 for associate membership

—Overview: According to the website, “more than 300 major aerospace and defense companies and their suppliers are members of the association [....] The association concentrates on issues covering civil aviation, space, national security, international and procurement & finance. In addition the association has offices for Communications, Legislative Affairs, and Membership Services, the Supplier Management Council, the Team America Rocketry Challenge and the Aerospace Research Center.”

Aviation Suppliers Organization (ASA)— <http://www.aviationsuppliers.org/>

—Membership: \$600 for associate membership

—Overview: According to the website, “The Aviation Suppliers Association (ASA), based in Washington, D.C., is a not-for-profit association, representing more than 390 global member companies that are positively shaping the aviation industry. Collectively, they lead critical logistics programs, purchasing efforts, and distribution of aircraft parts world-wide.”

Society of Automotive Engineers International–Aerospace (SAE–Aerospace)—
<http://www.sae.org/>

—Membership: \$80 (Classic), \$150 (Premier), or \$20 (Student Chapter Member)

—Overview: Membership in SAE allows industry to have access to the latest technology information available in the realm of Aerospace. This includes links to multiple resources including events, books, scholarly journals, training and aids.

Furniture

Market Research Sources & Market Report Sources

Office Furniture Manufacturing Industry in the U.S.A.—Publisher: Barnes Reports,
Published October 2010



The Office Furniture Manufacturing Industry report contains timely and accurate industry statistics, forecasts and demographics. The report features current year data and forecasts for next year on the size of the industry (sales, establishments, employment) nationally and for all 50 U.S. States and over 900 metro areas. The report also includes industry definition, 5-year historical trends on industry sales, establishments, and employment, a breakdown of establishments, sales, and employment by employee size of establishment (9 categories), and estimates on several sub-industries, including desks, cabinets, bookcases, shelves, chairs, and partition systems. Cost \$149

Office Furniture Manufacturing—U.S. Industry Report; Publisher: IBISWorld, Published February 2010

In-depth industry market research presented in a logical and consistent format. Including 35 pages of insights covering industry conditions, key statistics, competitor analysis and market share, product and customer segmentation and a 5-year forecast. Cost \$750

Freedonia Focus on Office Furniture—Publisher: Freedonia Group, Published July 2009

“This report discusses U.S. office furniture shipments for the years 2003 and 2008, with forecasts for 2013. Topics covered include market size, product segmentation, trade, product development, distribution, market environment, product forecasts, industry composition, and leading participants. Product segments include panel and modular systems; seating; storage units and files; and other office furniture. This 19-page report also includes a highlights summary and a resources section.”

(<http://www.marketresearch.com/Freedonia-Focus-v3334/Freedonia-Focus-Office-Furniture-2895080/>) Cost \$500

Furniture in the United States—Publisher: Gobi International, Published April 2010

This report covers consolidated demand for all furniture. This includes furniture made of wood, metal, plastics, and other materials. It covers the market in the United States. Cost \$20

IBIS World

This is a market research company who both sells and gives away some great information with regards to any industry. I recommend we utilize the free section(s) of this report for all of the products and services.

Social Media, Professional Organizations and Consultants

The Keeping Room Forum

This forum is a blog in which current industry actors, customers, and suppliers all discuss current issues.



The Association of Woodworking and Furnishings Suppliers (AWFS)

A professional association of furniture suppliers

National Home Furnishings Association (NHFA)

A professional association of furniture suppliers

The Business and Institutional Furniture Manufacture's Association (BIFMA International)

BIFMA is like a combination between the professional associations and market research reports. They provide excellent (albeit non-specific) information about the industry, changes, upcoming events, etc., on their website.

American Home Furnishings Alliance (AHFA)

AHFA is like a combination between the professional associations and market research reports. They provide a little information about the industry on their website, but require \$50 to view their reports. Cost \$50

Major Systems

Market Research Sources & Market Report Sources

IHS Jane's Defence Weekly— <http://jdw.janes.com/public/jdw/index.shtml>

This site is a general research site for all defense related news and issues. The research tools section is locked but NPS students/faculty have access through the library.

Forecast International—Defense market research & consulting— <http://www.forecastinternational.com/>

This site has market research reports for purchase for aerospace systems and other defense weapon systems. The price range is approximately \$2000–\$5000 per report.

STS Research Group—Custom market research for new markets and new products— <http://www.defensemktresearch.com/>

The company offers custom market research reports for purchase for just about every defense-related system (e.g., aircraft, ships, missiles, satellites, etc.). According to the site, the reports are in-depth customer feedback for system design enhancements and look at competitor (pricing, share, SWOT, EBIT); market size, growth, supply chain (greatest value add); revenue and margin projections; key addressable opportunities;



market entry strategy; risk-reward assessment. Examples are available on the site but there is no price list.

MarketResearch.com—Defense sector focus—

<http://www.marketresearch.com/browse.asp?categoryid=231>

The site offers market research reports (and other industry reports) for purchase on general defense topics and specific topics (tanks, military aircraft, etc.). The prices range all the way up to \$5000 depending on the depth and subject of the report.

Defensemarket.com—Defense Market Research and Analysis—

<http://www.defensemarket.com/>

This site has general defense news and market intelligence reports for purchase looking at specific defense industries (UAVs, IT, cyber security). The report prices are approximately \$6000.

Frost & Sullivan—Aerospace & Defense market intelligence—

<http://www.frost.com/prod/servlet/svcg.pag/AD00>

According to the site, Frost & Sullivan provides global industry analysis, custom consulting, growth consulting (strategy consulting), market research, market forecasts, and insights into emerging technologies that are designed to help your firm address current trends and challenges, identify new technologies, and take advantage of opportunities for growth. Access to Market Insight reports are on a subscription basis while the consulting is a custom-sized/priced.

Lucintel—Aerospace & Defense market intelligence—

http://www.lucintel.com/is_aerospace.aspx

This company offers wide-ranging services that cover most of the major defense aerospace related acquisition markets (space, fixed-wing aircraft, UAVs, etc.). The site has reports and custom consulting with a wide range of pricing, depending on usage.

Defenseworld.net—Defense market intelligence—

<http://www.defenseworld.net/html/Market%20Research.htm>

This site has a subscription based “defense database” that offers information about existing defense equipment around the world (similar to Jane's Defence). There are also defense-related articles and the company offers custom market research and analysis. There was no price list for the subscription and the custom reports are priced based on research required.

ASDReports.com—Aerospace & Defence Market Research Reports—

http://www.asdreports.com/shopcontent.asp?type=Aerospace_Defence



The site offers defense market research reports on everything from IT to infantry weapons to UAV. The reports within each category cover many topics and range in price from approximately \$1000 to \$5000.

Bureau of Industry and Security—Defense Industrial Capability and Technology Assessments—

<http://www.bis.doc.gov/defenseindustrialbaseprograms/osies/defmarketresearchrpts/default.htm>

This is a Government site that analyses capabilities of the U.S. industrial base to support the national defense. This could be vital when purchasing a new system (e.g., MRAPs). Reports are available online or through the mail.

FinancialTimes.com—Aerospace & Defense Company News—

<http://www.ft.com/intl/companies/aerospace-defence>

This site provides news from the business side of the defense companies. There is free access to the site but the market research reports require onetime payment (price varies).

Services/Construction

Research & Development

Market Research Sources & Market Report Sources

www.rand.org

An Assessment of Selected Models Used for Evaluating Military R&D Projects by E. S. Ojdana, John P. Weyant

Several large computer-based R&D planning models, developed over the past few years, are examined to determine why such models have not been adopted for full and regular use by R&D managers. The models consider, in various degrees, three major tasks of the R&D planning process: (1) identifying and ranking organizational objectives (such as desired operational capabilities), (2) evaluating candidate R&D projects based on their contribution toward achieving the objectives, and (3) selecting preferred projects and allocating resources among them. Cost \$17.50

R&D Management Methods Used by Federal Agencies by John G. Wirt, A. Lieberman, Roger Eli Levien

Description of methods that selected federal agencies use to manage three major types of R&D: (1) fundamental research to gain knowledge about basic natural phenomena,



(2) practice-oriented R&D to produce knowledge and products directly useful in practice, and (3) programmatic R&D to solve important national problems in a comparatively short period of time. Included in the descriptions of the methods are (1) the procedures used for program management, (2) the organization of R&D activities within the various federal agencies, and (3) the staffing plans used to support R&D management. Each of the management methods described represents a different approach to program development, the basic responsibility of R&D managers. This includes the generation of new basic program ideas, the elaboration of these ideas into finished products of proven worth, and the distribution of R&D products among user communities. Cost \$31.50

Other Professional Services (Including A&AS)

Market Research Sources & Market Report Sources

President's Council on Integrity & Efficiency—Advisory & Assistance Services— A Practical Reference Guide—December 2000

Prepared by the Inspections and Evaluation Roundtable as a guide to be used in the procurement of advisory and assistance services in the Inspector General community. Includes sample SOWs and contract clauses and discusses the majority of the contracting process beginning with acquisition planning through administration (does not cover close out). There is only a small section regarding market research, which talks about knowing the market, historical research of contracts, finding new contractors through RFIs and documenting results.

S3 Defense, Inc. 2008 Market Overview Guide for Government A&AS contracting

Discusses market description, market segmentation/size/composition, industry structure, market forces (Porter's five forces), issues and trends and success factor for A&AS companies

Air Mobility Command Instruction 63-101—22 April 2002—Advisory and Assistance Support Management

Prescribes and explains how to develop and implement the requirements of the FAR concerning A&AS, targeted at the AMC community. Mainly focuses on the establishment, documentation, and approval of A&AS requirements.



Facilities Operations Support

Market Research Sources & Market Report Sources

http://abilityone.org/total_facilities_management.html

This site covers a lot of information for facilities management and is a support organization that specifically helps the federal Government.

<http://www.ibisworld.com/>

Custodial

Market Research Sources & Market Report Sources

<http://www.bls.gov/oco/ocos174.htm>

This is a Government source that provides information on wages, qualifications, and economic projections. It provides links to additional information and related occupations.

<http://www.klinegroup.com/reports/x30i.asp>

Kline Group has a 2010 market analysis of the janitorial services industry. It includes qualitative and quantitative analysis as well as current trends in many different market segments. The report can be purchased in its entirety or by section.

www.icongrouponline.com/

Icon Group International provides a 2011–2016 outlook report for the janitorial services industry. It covers more than 200 countries and provides a strategic perspective of the industry.

<http://www.ibisworld.com/industry/default.aspx?indid=1496>

IBISWorld provides industry reports for over 700 different U.S. industries (including janitorial services) and 300+ market environment reports. Reports are updated at least twice per year and cover industry conditions, industry statistics, competitive environment analysis, product and customer segmentation, and a five-year forecast. The website requires a subscription that is fairly pricey.

<http://denaliusa.com/market-intelligence/category-management/janitorial-services>



Denali provides industry reports including janitorial services. The report can be purchased or the service can be subscribed to.

<http://www.marketdataenterprises.com/FullIndustryStudies.htm>

Market Data Enterprises provides a 226-page report for \$1,995. The report includes data since 1987 and projections through 2013 and covers trends throughout the industry.

Social Media, Professional Organizations and Consultants

http://www.nationalcleaningassociation.com/index.php?option=com_content&view=frontpage&Itemid=68

National Cleaning Association provides general business help and information for janitorial service providers and allows customers to find service providers. You can find sources by location, name, or capability.

<http://www.issa.com/>

ISSA is a worldwide trade association for the cleaning industry that provides education, certification, and information for janitorial services firms. The website includes a buyer's guide and information on trade shows.

<http://www.bscai.org/>

Building Service Contractors Association International provides industry information, education, and networking to building service contractors. This is a broader category than janitorial services so not all information is relevant, but there is useful information and contacts available.

<http://www.ijcsanetwork.com/>

The International Janitorial Cleaning Services Association provides industry news, certifications, safety information, and a business directory with contact information.

<http://www.cminstitute.net/>

The Cleaning Management Institute provides professional development and certification for building cleaning and maintenance professionals. It also has market reports for real estate for sale as this is the primary demand driver for janitorial services.

<http://www.facebook.com/home.php#!/groups/143082532433588>

This is a Facebook group for people who are involved in cleaning service and facility management. It provides industry specific information including potential service opportunities targeted towards small businesses.



<http://janitorshelp.blogspot.com/2011/07/new-polti-1030r-vaporetto-vapor-steam.html>

This is a blog about janitorial services. It includes products that could be helpful for small businesses but little else.

<http://www.ijcsanetwork>

The International Janitorial Cleaning Services Association (subscription)

Medical Services

Market Research Sources & Market Report Sources

<http://www.marketresearch.com/VHP/Healthcare/default.asp?categoryid=1594>

The healthcare category covers the array of market products and services that form the environment in which clinical care is provided, including the financial side of medical markets from private healthcare financing (insurance, managed care, and reimbursement schemes) to public regulation and policy (Government programs and subsidies). It also covers issues in care delivery and settings (hospitals, clinics, long-term care facilities, personnel, improvement initiatives, and prevention/wellness programs) and technological product categories that will impact the entire system (hospital information systems, telemedicine, and electronic medical records [EMR]).

[http://www.espicom.com/web3.nsf/structure/Samplepdf/\\$File/wmmf-samp.pdf](http://www.espicom.com/web3.nsf/structure/Samplepdf/$File/wmmf-samp.pdf)

Worldwide Medical Markets Forecasts to 2016 (Published June 2011) is essential for business forecasters, marketing planners, and the investment community, and anyone, in fact, who needs to understand the future outlook for the dynamic medical device and equipment industry.

http://www.marketstreetresearch.com/markets_served/health.htm

Conducting healthcare marketing research is one of Market Street Research's greatest strengths. Since 1980, MSR has designed and conducted many hundreds of healthcare marketing research studies for healthcare providers ranging from internationally respected academic medical centers, health systems and tertiary care hospitals to regional and community-based hospitals, specialized clinics, and physicians' practices serving urban, suburban, and rural markets across the United States.

Healthcare Industries, 2010-11 Edition—

<http://www.bls.gov/oco/cg/cgs035.htm#nature>

<http://www.wikiwealth.com/company:healthcare>



The health care industry involves providing health care services to those who need medical care. This industry can take many forms, including pharmaceutical companies, health care real estate investment trusts (REIT's), for profit hospitals, medical device makers, home health aides, and over-the-counter drugs. These industries are often heavily regulated and require compliance with a number of different agencies, including Medicare and Medicaid, the Food and Drug Administration (FDA), and other local and state agencies. Many companies within the health care industry provide ever-improving products, often protected by patents, that may lead to additional risks as the drugs or products come off of patent. Owning a diverse number of health care stocks may lead to improved financial performance and stability of earnings as a result when selecting a health care investment.

Plunketts Health Care Industry Report—

<http://www.plunkettresearch.com/health%20care%20medical%20market%20research/industry%20overview>

Market Monitor: Healthcare Industry— <http://www.marketsmonitor.com/Market-Research/Healthcare-Industry.html>

The report shows a highly concentrated structure of the market, with the top players dominating the market. It provides segment level analysis of the industry along with emerging trends that may shape up with the betterment of economic conditions. The research will help consultants, industry analysts, and vendors to get in-depth knowledge of the current, past, and future performance of the industry. The report provides extensive research on the recent trends of the U.S. healthcare IT industry along with an impartial analysis considering the impact of the financial crisis on its performance.

Social Media, Professional Organizations and Consultants

Advanced Medical Technology Association (AdvaMed)

Tel: (202) 783-8700

Fax: (202) 783-8750

National Association for Home Care & Hospice

Tel: (202) 547-7424

Fax: (202) 547 3540

Dental Trade Alliance

Tel: (703) 379-7755

Fax: (703) 931-9249

American Electronics Association

Tel: (202) 682-9110

Fax: (202) 682-9111

American Orthotic and Prosthetic Association



Tel: (571) 431-0876
Fax: (571) 431-0899

Contact Lens Manufacturers Association
Tel: (800) 344-9060
Fax: (402) 465-4187

Contact Lens Society of America
Tel: (800) 296-9776
Fax: (703) 437-0727

Health Industry Business Communications Council
Tel: (602)381-1091
Fax: (602)381-1093

Aircraft Maintenance

Market Research Sources & Market Report Sources

<http://www.aviationtoday.com/am/categories/maintenance/>

Aviation Maintenance Magazine—This source lists current maintenance issues/events in the aircraft industry. Additionally, it provides information such as “Industry Leader Profiles,” which lists suppliers, etc.

<http://www.aerospacemall.com/aerospace-directory>

Provides a robust directory of aviation maintenance resources. Filters are integrated into searches to help sort by qualifications, country, category, and subcategory.

http://www.bizcompare.com/industries/industry-research-reports/Aircraft-Maintenance_1475/

Provides aircraft maintenance industry research reports. Specifically, the reports include industry revenue and the number of suppliers in certain areas (i.e., U.S.).

[http://rgl.faa.gov/Regulatory_and_Guidance_Library/rgAdvisoryCircular.nsf/0/316d2e08216d93b186256c8a0071c36f/\\$FILE/Ac65-30a.pdf](http://rgl.faa.gov/Regulatory_and_Guidance_Library/rgAdvisoryCircular.nsf/0/316d2e08216d93b186256c8a0071c36f/$FILE/Ac65-30a.pdf)

Provides FAA aircraft maintenance certification requirements.

<http://www.ibisworld.com/>

Provides industry reports and analyses about individual industries.



Social Media, Professional Organizations and Consultants

Professional Aviation Maintenance Association— <http://www.pama.org/>

Contains industry news, articles, and publications. The website also features a forum for aviation maintenance.

Aviation Maintenance Professionnels— <http://www.amtsociety.org/>

Provides resources such as training, education, etc., to maintenance professionnels.

Construction

Social Media, Professional Organizations and Consultants

Building Trades Association— <http://www.buildingtrades.com/>

American Institute of Constructors & Constructor Certification Commission— <http://www.professionalconstructor.org/Home>

Associated Builders and Contractors— <http://www.abc.org/>

The Construction Institute— <http://content.constructioninst.org/>

Construction Management Association of America— <http://www.cmaanet.org/>

Design-Build Institute of America— <http://www.dbia.org/>

International Construction Information Society— <http://www.icis.org>

National Association of Women in Construction— <http://www.nawic.org>

National Contract Management Association— <http://www.ncmahq.org>

Professional Women in Construction— <http://www.pwcusa.org>

Women Contractors Association— <http://www.womencontractors.org>



Education & Training

Market Research Sources & Market Report Sources

The Training Registry— <http://www.trainingregistry.com/index.asp>

Description: The Training Registry is a directory of trainers' workshops and training seminars. We list hundreds of trainers, consultants, and consulting services and thousands of training topics, workshops, and seminars covering all delivery media including instructor-led, web-based, or online courses, computer-based training videos, and more. We also list training room & training facility rentals and keynote speakers.

Bureau of Labor Statistics— <http://www.bls.gov/home.htm>

Description: Principal Federal agency responsible for measuring labor market activity, working conditions, and price changes in the economy. Its mission is to collect, analyze, and disseminate essential economic information to support public and private decision-making. As an independent statistical agency, BLS serves its diverse user communities by providing products and services that are objective, timely, accurate, and relevant. BLS has tools and reports for employment projections, pay and benefits, labor force statistics, and inflation & prices. Also issued the *Occupational Outlook Handbook* (2010–2011 Ed.), a major source of education and training required to enter many occupations. Detailed training and education needed for jobs, earnings, expected job prospects, what workers do on the job, and working conditions.

Social Media, Professional Organizations and Consultants

International Association for Continuing Education and Training (IACET)— <http://www.iacet.org/>

The International Association for Continuing Education and Training is a non-profit association dedicated to quality continuing education and training programs. IACET authorizes education providers that meet strict continuing education guidelines created in 1968. IACET certification is the standard learners seek for quality. IACET's Criteria and Guidelines are the core of thousands of educational programs worldwide.

Mission: IACET's Mission is to promote and enhance quality in continuing education and training through research, education, and the development and continuous improvement of IACET criteria, principles, and standards.

American Council on Education (ACE)— <http://www.acenet.edu/AM/Template.cfm?Section=Home>

Founded in 1918, the American Council on Education (ACE) is the only higher education organization that represents presidents and chancellors of all types of U.S. accredited, degree-granting institutions: community colleges and four-year institutions,



private and public universities, and nonprofit and for-profit colleges. ACE represents the interests of more than 1,600 campus executives, as well as 200 leaders of higher education-related associations and organizations. Together, ACE member institutions serve 80% of today's college students.

Mission: In its role as the major coordinating body for all the nation's higher education institutions, ACE provides leadership on key higher education issues and influences public policy through advocacy, research, and program initiatives.

Logistics Services

Market Research Sources & Market Report Sources

Accenture.com (GSA MOBIS contract)

According to the webpage, which is intended to generate an awareness of this contract, "Through the MOBIS schedule, Accenture is helping the U.S. Government Services Administration improve performance and accomplish mission goals through the use of specialized consulting and training services, facilitation, surveys, competitive sourcing and project management." Accenture is the prime on this IDIQ contract, which apparently is in place to provide consulting services to the Government in the area of logistics.

Social Media, Professional Organizations and Consultants

Council of Supply Chain Management Professionals (CSCMP)

According to their website (cscmp.org), the CSCMP serves to "lead the evolving supply chain management profession by developing, advancing, and disseminating supply chain knowledge and research." They envision themselves as "the preeminent worldwide professional association of supply chain management professionals." They provide a venue for communication amongst supply chain professionals to communicate best practices and develop skills, conduct research, etc. They do not condone members using the organization to push their company's services on other members. They conduct roundtables, conferences, and symposiums, as well as publish a number of annual reports and case studies on logistics.

American Society of Transportation and Logistics (ASTL)

ASTL is a professional organization founded in 1946 by a group of industry leaders to insure a high level of professionalism and promote continuing education in the field of transportation and logistics." Their mission is "to facilitate education and certification in the fields of transportation, logistics, and supply chain management." As with the CSCMP, they host a number of events, and publish numerous reports on the state of



logistics in industry. They have even created their own certification similar to that of DAU which they call the CTL (Certified in Transportation and Logistics). Interestingly, they list AFIT as a school whose curriculum in a related field satisfies the blanket approval for CTL certification.

The Logistics Institute

Loginstitute.ca is mostly a resource for finding other logistics services resources; however, the resources are for members only. Like the other sites, they offer their own certification in the logistics career field, which they call "P.Log." Though it does gear itself towards Canadian resources, naturally there are a lot of American sites and associations linked to this website.



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Appendix B: Methods of Industry Analysis

Industry Analysis Methods

This appendix explains various theoretical methods and models for conducting industry analysis. This appendix also explains various occasions when these tools can be used in market intelligence and research for federal acquisition. We explore the use of Porter's five forces, Kraljic's portfolio matrix, Cox Power Matrix, SWOT analysis, and value curves.

Porter's Five Forces

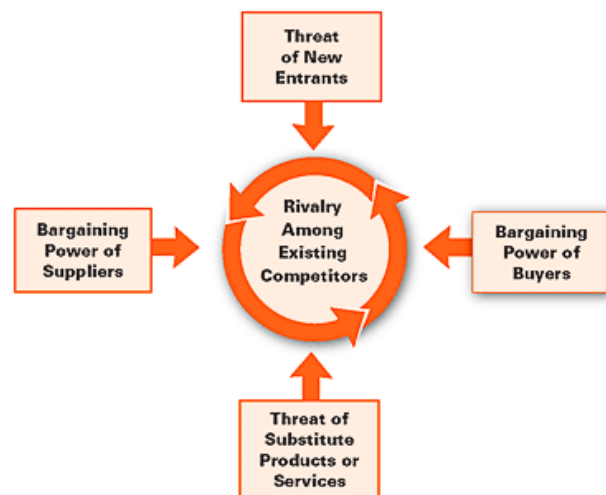
Porter's Five Competitive Forces That Shape Strategy

1. Theory

Porter introduced the idea of competitive forces to the literature in 1979. Since then, it has been one of the primary tools for industry analysis. The five forces framework intends to reveal the dynamics of an industry's profitability and the nature of the competition within (see the figure "The Five Forces That Shape Industry Competition;" Porter, 2008, p. 80).

In essence, Porter asserts that, the stronger of a force, the more downward pressure it puts on the industry's profitability. This is why he calls each force a "threat." "The strongest competitive force or forces determine the profitability of an industry and become the most important to strategy formulation. The most salient force, however, is not always obvious" (Porter, 2008, p. 80).

The Five Forces That Shape Industry Competition



2. Attractiveness

Porter's five forces model is used to diagnose the industry structure to see how attractive it is to bringing in new competitors. Long-term profit potential is the main thing that makes the industry attractive to new entry. Low threats (forces) also make an industry appear attractive and therefore create more competition, but over the long run, the five competitive forces erode long-term industry average profitability. When conducting a Porter's five forces diagnosis of the industry, it can show the buyer what to expect when entering the marketplace, but more importantly, it can reveal the relative power positions of suppliers and you as the buyer.

While Porter's five forces model does a great job diagnosing the industry structure, it also explains the sustainability of profits against bargaining and against both direct and indirect competition. According to the model, the differences in performance (profit) depend upon the positioning of the firm within the industry. If the firm is able to achieve superior profitability over the long run, then the firm has a sustainable competitive advantage by either a strategy of being a low-cost provider or by differentiating its value offerings (i.e., goods and services) in a way that creates market demand.

3. The Five Forces

In this section are the mechanisms of how each force shapes industry structure. Firms, through strategies, can influence the five forces, and if they can successfully shape the industry's structure, they can change an industry's attractiveness for better or worse. Porter examines these five drivers "taking the perspective of an incumbent, or a company already present in the industry" (Porter, 2008, p. 80).

a. Threat of New Entry

Markets with high profitability will attract new firms. The entrance of many firms will lead to price wars and therefore decrease the overall profitability. Under the conditions of perfect competition, the profits will eventually become zeroed. Incumbents



will seek ways of blocking new entrants to keep their margins. Possible barriers to entry can be the following (Porter, 1979):

- i. Supply-side economies of scale
- ii. Demand-side benefits of scale
- iii. Customer switching costs
- iv. Capital requirements
- v. Incumbency advantages independent of size
- vi. Unequal access to distribution channels
- vii. Restrictive Government policy

b. The Power of Suppliers

Powerful suppliers have the ability to set high prices due to their unique advantages. Suppliers of raw materials, components, labor, and services to the firm have relative power against the firm, especially when there is a lack of abundant substitutes. This power gives the ability to the supplier to charge higher prices or to refuse to work with the firm. Possible sources of supplier power are the following:

- i. Supplier switching costs relative to firm switching costs
- ii. Supplier concentration relative to firm concentration
- iii. Degree of dependency of supplier group on the industry for its revenues
- iv. Degree of differentiation of supplies or services
- v. Presence of substitute supplies or services
- vi. Threat of forward integration (i.e., supplier's ability to acquire the buyer firm)

c. The Power of Buyers

IMPORTANT NOTE: This is an important force to take into account for federal procurement. The AF, and the DoD as a whole, has a consistent capability to control the outcomes through a direct leverage of the sheer volume of our purchasing power. However, this leverage is only obtainable if the currently fragmented spend can be



concentrated. The bargaining power of buyers is regarded as high if they are price sensitive and have the ability to pressure price reductions (Porter, 2008). Buyers have bargaining power under the following circumstances:

- i. They are concentrated (e.g., center-led strategic sourcing) or purchases are made in high volumes.
- ii. Products/services are standard or undifferentiated.
- iii. They have low switching costs in changing suppliers.
- iv. They have the ability/possibility of backward integration (i.e., buying out suppliers)
- v. They are price sensitive. That means that
 - products they purchase represent a significant fraction of their cost structure;
 - they earn low profits;
 - the quality of buyers' products/services is not much affected by the industry's product (i.e., the product or service being purchased); and
 - the industry's product has little effect on the buyers' other costs.

d. The Threat of Substitutes

The existence of products or services with the same or similar function as an industry's product increases the possibility that buyers will switch to alternatives. The factors that affect this threat are as follows:

- i. Buyer's propensity to switch to alternatives
- ii. Relative price performance of the substitutes
- iii. Switching costs of buyers
- iv. Perceived degree of product differentiation
- v. Availability and variety of substitutes in the market



e. Rivalry among Existing Competitors

The existence of rivalry can result in price wars, product differentiation, intense advertising, and service improvements. The rivalry is intense in the following circumstances (Porter, 1980):

- i. Competitors are numerous or are similar in size and power.
- ii. Industry growth is slow.
- iii. Exit barriers are high.
- iv. Rivals are highly committed to the business and have aspirations for the industry leadership.
- v. Firms are unable to read each other's signals clearly.

f. Factors other than the Forces

Five forces constitute the dynamic side of the industry structure. There are also other factors that affect the underlying structure of the industry. These factors are not independent forces but they have to be considered to fully understand the industry structure. There is not a single formula in which the direction of the pressures and the profitability can be analyzed. Yet, each factor has to be analyzed in interaction with the others as well as with the five forces to determine the mechanism in which it operates. The other factors are as follows:

- i. Industry growth rate
- ii. Technology and innovation
- iii. Government
- iv. Complementary products and services

4. Practice: Relevance and Application

An area where the practitioner might use a five forces analysis is when the Department of Justice requests a contracting officer's opinion on a proposed merger or acquisition of a defense contractor. They will want to know the impact on competition and the threat of anti-trust (i.e., monopoly). The contracting officer will not be able to



answer this without an in-depth knowledge of the industry that he or she can gain through a Porter's five forces analysis.

Another area is market research (MR), which "is the process used to collect, organize, maintain, analyze, and present data for the purpose of maximizing the capabilities, technology and competitive force of the marketplace to meet an organization's need for supplies or services" (AFLMA, 1997, p. 14). This definition comprises the necessity of doing an analysis of competitive forces for the industry from which the product/service will be acquired. Porter's five forces framework has been one of the primary tools for industry analysis since his famous article was first published in 1979.

Being an essential part of the market research, industry analysis fits the same spot where MR fits in the acquisition process. FAR Part 10 indicates two stages for MR to be done within the acquisition life cycle. The first one is "before developing new requirements documents for an acquisition by that agency" and the second one is "before soliciting offers..." in general (FAR, 2011, 10.001(a)(2)).

Below is an insightful perspective of Porter's five forces and the relationship between attractiveness and profitability that stimulates competition and, at the same time, causes firms to erect barriers to entry and to protect long-term competitive advantage which are relevant to MR. Sometimes, this is manifested in firms seeking patents, copyrights, and other intellectual property (IP) rights. Thus, buyers should be aware of forthcoming difficulties with buying software and items that are proprietary. This impacts the sustainment strategy. Do we buy the technical data or not? What would be the cost of the technical data? In terms of total ownership costs, how much could we save by purchasing the technical data, then competing the sustainment goods/services? Does performance-based logistics (or outcome-based contracting) make sense? Practitioners using commercial procedures (FAR Part 12) should be particularly aware of this because the default term is that the customary IP rights offered in the marketplace is what you get. If that is not sufficient, the astute CO must negotiate what the agency needs, then document this in an addendum to 52.212-14. "When



planning an acquisition, acquisition personnel should maximize the use of competitive market forces. Through market research, the level of market competition and the number of potential sources capable of satisfying requirements should be identified. The extent of competition in the market and the nature of that competition should be factored into the acquisition strategy. Competition will dictate price, quality, available features, the speed of technological improvement, the energy efficiency of the items, and the quality of service and support. The solicitation and contract should be structured to reflect the level of competition in the market and to maximize competitive pressures. If limited competition appears in the market, reasonably modify the requirements to expand the number of potential sources” (AFLMA, 1997, p. 37).

Porter’s five forces tool provides an analysis from the standpoint of an incumbent or a company that currently exists in a particular industry, which for our purposes is the Facilities Management sector (specifically HVAC, Security, and Janitorial Services). By implementing five forces analysis, firms can develop their strategies for achieving a sustained competitive advantage relying on the facts they find out about market profitability and the dynamics of the market structure. However, a Government agency, as a buyer, has different considerations other than profitability or entrepreneurial decision-making. Thus, users have to bend this tool towards a buyer’s considerations to glean value from the use of it.

The members of acquisition team apply Porter’s framework to answer the following:

a. Threat of new entry

- i. What can a Government buyer do to foster a perfect competition environment for the industry?
- ii. What threats for the possible new entrant exist in the industry? What effects does it have on the profit margins of the existing firms?
- iii. What would be the effect of modifying the needs/requirements in terms of eligible industry size, because if you descope a project you can invite more competition?



Returning to the facilities management example mentioned previously, it is important to consider the impact of bundling on the acquisition strategy. Specifically, an analysis of the threats of new entry in the facilities management field allows for a more informed determination as to whether or not bundling services is actually helpful (or in some cases detrimental) to the requirements of the customer.

b. Bargaining power of the suppliers

- i. How big are the existing vendors?
- ii. What does the industry currently compete on: prices or features (i.e., differentiation)?
- iii. What is the average profit margin in the industry? What does their cost structure look like? What are the cost drivers?
- iv. How is the financial performance of the industry?
- v. Is there a propensity of consolidation, backward or forward integration, mergers and acquisitions?
- vi. How differentiated are the products/services offered by the industry?
- vii. What are the switching costs of suppliers?

c. Bargaining power of the contracting agency

- i. What portion of the consumption of this product/service does the agency constitute for the industry? For any given supplier?
- ii. How important a customer is the agency for the industry? For any given supplier?
- iii. Does the agency have the flexibility to modify its needs to enlarge the eligible portfolio of suppliers?
- iv. What are the opportunities for strategic sourcing?

It is important to note that a spend analysis is one of the most important tools that a contracting agency can utilize. For example, when contracting for a large facilities management requirement it would be important to conduct a spend analysis for an entire agency over the course of several years to determine just how much bargaining power the agency has.



d. The threat of substitutes

- i. Are there numerous substitutes? Can the agency standardize the parts and/or service levels they use in order to substitute between parts more easily? A reduced variety of items translates into an ability to increase our purchase volume of items which ultimately may allow us to reap economies of scale (i.e., unit price discounts). A reduced variety of items also translates into less inventory necessary to meet customer demand, which also results in savings. More substitutes give the Government buyer more options to satisfy demand. This translates into more power in the marketplace.
- ii. How different are the substitutes from the industry standards? What is the degree of modification needed? Can substitutes be modified and at what cost to meet agency needs?
- iii. What is the general degree of propensity of other buyers to switch to alternatives?
- iv. What are the relative price, performance, and cost structures of the substitutes?
- v. What is the cost of switching to substitutes?

e. Rivalry among existing competitors

- i. What is the industry growth rate?
- ii. How high are the barriers to exit?
- iii. Are there numerous or few firms in the industry? What proportion of the whole industry do the industry leaders constitute?
- iv. Does industry leadership matter for the competitors? What are the ultimate goals of their strategies?
- v. How sensitive is the industry? How open are the actions of firms to others?
- vi. What does the industry compete on: price or features (i.e., differentiation)?
- vii. Can the buyer increase the level of rivalry?
- viii. What about a sole source situation or a situation of constrained supply (bottleneck)? Do we sit back and accept it, or could we shape the market by “developing” a supplier? Supplier development is an industry best practice, and is thoroughly



explained in a CAPS Research report by Krause and Handfield (1999).

By helping answer these, Porter's framework can be used for developing an acquisition strategy revealing the following:

- the extent of competition in the market,
- the bargaining power of the agency as a customer,
- the opportunities of backward integration of sourcing through the use of direct construction and standardization,
- the availability of substitutes,
- the implications for accepting (or even encouraging) alternate proposals,
- the availability of commercial or non-developmental items,
- the possibility of modification in commercial or non-developmental items to meet the customer's needs and the tradeoffs between modification of items and modification of customer's needs,
- effects of modification on bargaining power and price, and
- the assessment of risk factors such as cost, performance, and technology risk.

The findings of the five forces analysis can also dictate or canalize to a particular contract type by revealing the respective bargaining powers of the agency and the vendors.

For example, as a rather large buyer of HVAC (a component of facilities management), the DoD might source a standardized requirement for HVAC equipment, then direct construction companies and facility maintenance companies to use this preferred HVAC supplier with which the DoD has reaped substantial economies of scale through the procurement of huge volumes.



Kraljic's Model

Kraljic's model is commonly referred to as a *strategy portfolio matrix* (Monczka et al., 2009, p. 211) and a *commodity segmentation model* (Handfield, 2006, p. 235). Sometimes it is called a *strategic sourcing matrix* or a *purchasing portfolio model*. For the purposes of this guide, we refer to it as the purchasing portfolio model (PPM).

Overview

The PPM is used to segment your spend on the premise that different types of spend should be treated differently. A common way to segment the spend is by *criticality of the good or service to the mission* and the *difficulty of supply*. For example, “non-critical” spend should not consume near the purchasing resources as does “strategic” spend, and suppliers for each type of spend should be treated differently.

To fully understand the significance that PPM plays in procurement, it is important to understand the role that Market Research/Market Intelligence (MR/MI) plays. Specifically, MR/MI is necessary in that it allows the agency to address the difficulty of the supply. While most agencies would only look at the amount of competition, Kraljic specifically identified that possessing good competitive market intelligence and research are essential for strategic items (Kraljic, 1983).

The PPM is widely used in industry and academia (Monczka et. al., 2009). The PPM has significant implications to the life cycle of a contract. In particular are five areas of the FAR (2011) that are of significance (Parts 1, 7, 10, 15, & 42):

- **FAR Part 1.102 (Statement of guiding principles for the Federal Acquisition System):** The FAR states that “the Federal Acquisition System will: 1) satisfy the customer in terms of cost, quality, and timeliness of the delivered product or service. ... and 2) minimize administrative operating costs ...” The best means to accomplish both of these objectives simultaneously is by using the PPM. FAR Part 1.102-1(b) goes on to say that, “All participants in the System are responsible for making acquisition decisions that deliver the best value product or service to the customer. Best value must be viewed from a broad perspective and is achieved by balancing the many competing interests in the system. The result is a system which works better and costs less.” Because the



principal customers for the products and services are the American taxpayers, the purchasing professionals must promote competition in the acquisition process and the system must perform in a timely, high quality, and cost-effective manner.

- **FAR Part 7.102(b) (Acquisition Planning Policy):** The type of spend, as plotted in the matrix, governs several other aspects of the acquisition strategy and post-award administration. The PPM as a whole (Phases 1–4) addresses the requirements of this subpart, which states: “The purpose of this planning is to ensure that the Government meets its needs in the most effective, economical, and timely manner.” It is important to not just get a requirement on contract—but to get the best and the right contractor on contract. To do this, you need to perform market research to show you who is “best-in-class.” Getting three offers/quotes does not guarantee a fair and reasonable price. “The mere presence of competition is inadequate to assure that the prices proposed are fair and reasonable” (Cibinic & Nash, 1998, p. 1313). To ensure you know that you have a fair and reasonable price, you must perform price analysis or cost analysis, which is fed by market research. All four of these phases are dedicated to streamlining the acquisition efforts of the Government, and ensuring that each service or good is procured in the manner that is the most appropriate for its strategic importance.
- **FAR Part 10.002 (Market Research Procedures):** This segment of the FAR essentially explains the procedures for conducting market research. Phase 2 (Market Analysis) of Kraljic’s model does not necessarily assist in the location of sources of supply, but it does allow for a better understanding of how much “pull” (i.e., clout or bargaining power) the Government has in the market for that particular good or service. This is similar to a five forces analysis that Porter developed. See a description of Phase 3 for additional information.
- **FAR Part 15 (Contracting by Negotiation):** While contracting by negotiation can result in the best value for the Government, this is not always the case. For example, you should minimize the time sourcing and managing “non-critical/routine” spend. This means do not put in a lot of effort into a best-value, full trade-off source selection. Thus, the type of spend can affect the source selection method and thus, the evaluation criteria. Don’t bother with complex incentives. Let price be the dominant determinant. And, make the buy efficient—with easy on/off ramps in case a supplier is not performing well. Let the competitive market drive the supplier to perform well. If the supplier is not performing, have a means to “de-source” and move your business elsewhere, which is where a basic ordering agreement (BOA) or a blanket purchase agreement (BPA) would be useful.



- **FAR Part 42 (Contract Administration):** It is important to minimize contract administration, but only with spend that is classified as non-critical so that more time can be focused on critical/strategic items. Do not entertain frequent changes from customers, specifically those that have requirements classified as non-critical spend. Do not “partner” with these suppliers. The relationship is transactional/arms-length. Grounds maintenance, custodial, furnishings (i.e., much of an organization’s indirect spend) falls in this category. However, if agencies work more strategically to bundle these services under the consolidated umbrella of facilities management, the spend type can shift from non-critical to critical. It is especially important to consider this idea when an agency decides to bundle so that the agency does not group non-critical services with strategic ones. This can prevent a needless sacrifice of evaluation criteria, and incentive and supplier-relationships, just in the name of consolidating services. Look for ways to consolidate these requirements to reduce the number of contract actions and contractors/suppliers. Excess contracts with excess suppliers is contrary to FAR 1.102—minimize administrative costs and buy in a cost-effective manner since there are substantial transaction costs for Government source selection, and since otherwise, economies of scale are foregone. These efficiencies can be achieved without compromising competition and without compromising socio-economic goals (Gordon, 2010).

How to Utilize the PPM

For “bottleneck” spend, you need contingency plans for shortages of supply. You could also consider developing another source by redesigning the product or service so that more competition becomes available (i.e., remove the bottleneck), or possibly doing the work in house. To address this, Krause and Handfield (1999) developed a twelve-step supplier development model that results in “improvements in suppliers’ performance and capabilities, improvements to the relationship between the buying company and the supplier, and improvements to the buy firm’s competency in managing suppliers” (p. 10). You can also use dual or multiple sources with the few suppliers in the market (e.g., ball bearings). You could use IDIQs, BPAs, or BOAs where allocation can be shifted rapidly in the event of, for example, supply shortages due to various incidents (e.g., natural disasters, supplier failures, labor strikes, terrorism, etc.).

For critical spend, the agency must acknowledge its dependence on the supplier and partner with it. This way, the agency can recognize that an environment of mutual



trust and congruent goals leads to long-term relational exchanges and reduces transaction costs as a result. Price is typically not as important here because your supplier can save you money through better management of total life-cycle costs.

For leverage and non-critical spend, exploit your purchasing power. Price matters. Consolidate spend to pursue economies of scale. Consider using a reverse auction where the requirement can be defined well, post-award changes will likely be minimal, and where several suppliers can perform the work. Exploit your purchasing power.

How Does the Kraljic Model (PPM) Apply to Market Intelligence?

The primary use of the PPM for a Government agency is to shape its supply strategy. For the purposes of market intelligence, the PPM utilizes a four phase approach to collect "...marketing and corporate data, forecasting future supply scenarios, and identifying available purchasing options as well as for developing individual supply strategies for critical items and materials" (Kraljic, 1983, p. 112). Addressing the following four phases allows for a significantly higher level of awareness of the Government's level of strength (or weakness) with its suppliers as well as providing an in-depth analysis of what it purchases. The following explanation of the phases includes exhibits pulled from Kraljic's 1983 article in the Harvard Business Review.

Phase 1: Classification

Here firms (or the Government) sort out all of the items that they purchase into a series of categories utilizing criteria such as *supply risk* and *criticality to the mission*. An example of how these items are classified is shown in the table titled Classifying Purchasing Materials Requirements, which is adapted from Kraljic (1983).



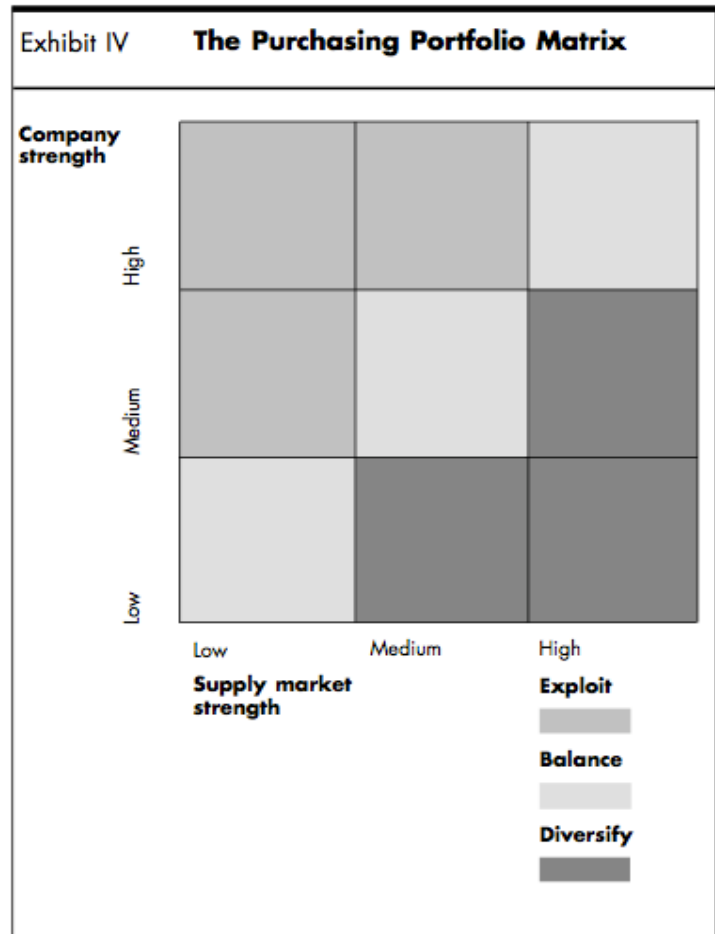
Classifying Purchasing Materials Requirements			
Procurement Focus	Main Tasks	Required Information	Decision Level
Strategic Items	Accurate demand forecasting. Detailed market research. Development of long-term supply relationships. Make-or-buy decisions. Contract staggering. RISK analysis. Contingency planning. Logistics, inventory, and vendor control.	Highly detailed market data. Long-term supply and demand trend information. Good competitive intelligence. Industry cost curves.	Top level (e.g., vice president, purchasing).
Bottleneck Items	Volume insurance (at cost premium if necessary). Control of vendors. Security of inventories. Backup plans.	Medium-term supply/demand forecasts. Very good market data. Inventory costs. Maintenance plans.	Higher level (e.g., department heads).
Leverage Items	Exploitation of full purchasing power. Vendor selection. Product substitution. Targeted pricing strategies/negotiations. Contract/spot purchasing mix. Order volume optimization.	Good market data. Short- to medium-term Demand planning. Accurate vendor data. Price/transport rate forecasts.	Medium level (e.g., chief buyer)
Noncritical Items	Product standardization. Order volume monitoring/optimization. Efficient processing. Inventory optimization.	Good market overview. Short-term demand forecast. Economic order quantity inventory levels.	Lower level (e.g., buyers)

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Phase 2: Market Analysis

In this phase, the buying firm (or Government) "... weights the bargaining power of its suppliers against its own strength as a customer" (Kraljic, 1983, p. 113). The phase is of particular importance to market intelligence in that it "... systematically reviews the supply market, assessing the availability of strategic materials in terms of both quality and quantity, and the relative strength of existing vendors. The company then analyzes its own needs and supply lines to gauge its ability to get the kind of supply terms it wants" (Kraljic, 1983, p. 113). The criteria that are utilized for this phase are found in the table entitled "Classifying Purchasing Materials Requirements," which is adapted from Kraljic (1983).

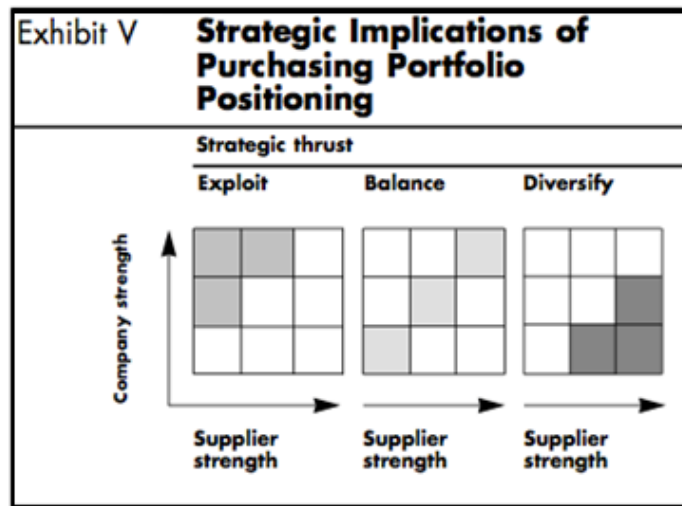


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Phase 3: Strategic Positioning

In this phase, the firm (or Government) works to position the materials that were identified as "strategic" in Phase 1 onto what is known as the purchasing portfolio matrix. Utilizing the purchasing portfolio matrix (PPM), it is possible to "... identify areas of opportunity or vulnerability, assess supply risks, and derive basic strategic thrusts for these items. The purchasing portfolio matrix plots company buying strength against the strengths of the supply market" (Kraljic, 1983, p. 113). The PPM, as adapted from Kraljic (1983) is shown in the figure titled The Purchasing Portfolio Matrix.





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Phase 4: Action Plans

In this phase, the company should "... explore a range of supply scenarios in which it lays out its options for securing long-term supply and for exploiting short-term opportunities; clearly define respective risks, costs, returns, and strategic implications; and develop a preferred option with objectives, steps, responsibilities, and contingency measures laid out in detail for top management approval and implementation" (Kraljic, 1983, p. 115). The end product of this exploration will be "... a set of systematically documented strategies for critical purchasing materials that specify the timing of and criteria for future action" (Kraljic, 1983, p. 115). The means for implementing and developing these action plans are shown in the figure titled "Policy Issues," which is adapted from Kraljic (1983).



Policy issues			
Volume	Spread	Keep or shift carefully	Centralize
Price	Press for reductions	Negotiate opportunistically	Keep low profile
Contractual coverage	Buy spot	Balance contracts and spot	Ensure supply through contracts
New suppliers	Stay in touch	Selected vendors	Search vigorously
Inventories	Keep low	Use stocks as "buffer"	Bolster stocks
Own production	Reduce or don't enter	Decide selectively	Build up or enter
Substitution	Stay in touch	Pursue good opportunities	Search actively
Value engineering	Enforce supplier	Perform selectively	Start own program
Logistics	Minimize cost	Optimize selectively	Secure sufficient stocks

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Where does it fall in the Acquisition Process?

The Kraljic Model is not contained to just one phase of the acquisition process. However, the four phases described in this section would be best utilized during a strategic purchasing planning process where the entire purchasing portfolio (or at least segments of it such as furniture, janitorial, etc.) is being examined. Phase 2 (Market Analysis) is of particular importance in that it "... systematically reviews the supply market, assessing the availability of strategic materials in terms of both quality and quantity, and the relative strength of existing vendors. The company then analyzes its own needs and supply lines to gauge its ability to get the kind of supply terms it wants" (Kraljic, 1983, p. 113).

Cox Power Matrix

Theory

The Cox Power Matrix is a framework which is used to understand buyer's and supplier's relative power. This power perspective helps us to enhance effective procurement and supply management. The current dominant view of competence in

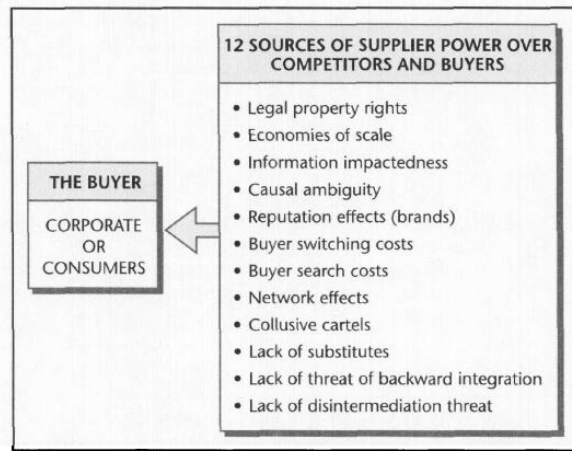


procurement and supply management can be explained as follows. Organizations should concentrate on their core competencies and outsource all those aspects of their business that are non-core to suppliers. According to the FAR (2011) Subpart 7.5, these core competencies and outsource areas can be separated from each other based on inherently Governmental functions such as the direct conduct of criminal investigations. These suppliers will be selected on the basis that what is outsourced to them is, for them, their core competence. Once the core competencies have been decided, the primary role of the procurement and supply manager is to end any internal fragmentation of similar categories of spend. The goal is to ensure effective consolidation of spend in like categories across all areas of the business. Once the consolidation has been achieved, the key role is then to reduce the number of suppliers whenever multiple and redundant supply relationships exist (Duffy, 2005). The aim here is to ensure that the procurement function has the time and resources to concentrate its efforts on selected suppliers in order to develop long-term performance improvement relationships, and to more closely oversee and manage the performance of a more manageable set of more reliable suppliers. Granted, the Government will not be able to consolidate to the extent that industry will, due to its public policy goal of promoting socio-economic opportunities with small businesses (Cox, 2001).

The competence in procurement and supply management starts from an understanding of the bases of supplier power and business strategy. On the downstream side of their supply chain, organizations want to be in positions of power over buyers. To achieve this, it is essential that organizations find “isolating mechanisms,” shown in the figure, The Fundamental Bases of Supplier Power Over Buyers (Cox, 2001).



THE FUNDAMENTAL BASES OF SUPPLIER POWER OVER BUYERS



It is also important to consider how strategic sourcing may or may not enhance and/or create more supplier power. The agency needs to assess the risk of over empowering their suppliers on a case-by-case basis if, by bundling, the agency is creating higher buyer switching costs, collusive cartels, lack of substitutes over time, or other concerns that would result in increased costs for the agency in the long run. Returning to the ongoing facilities management example, if it is strategically sourced across the entire AF, we may kill the competition over time and be worse off in out years. It is worth noting that we have to assess this when deciding how far to take our bundling (Regional, MAJCOM, AF-wide, DoD-wide?).

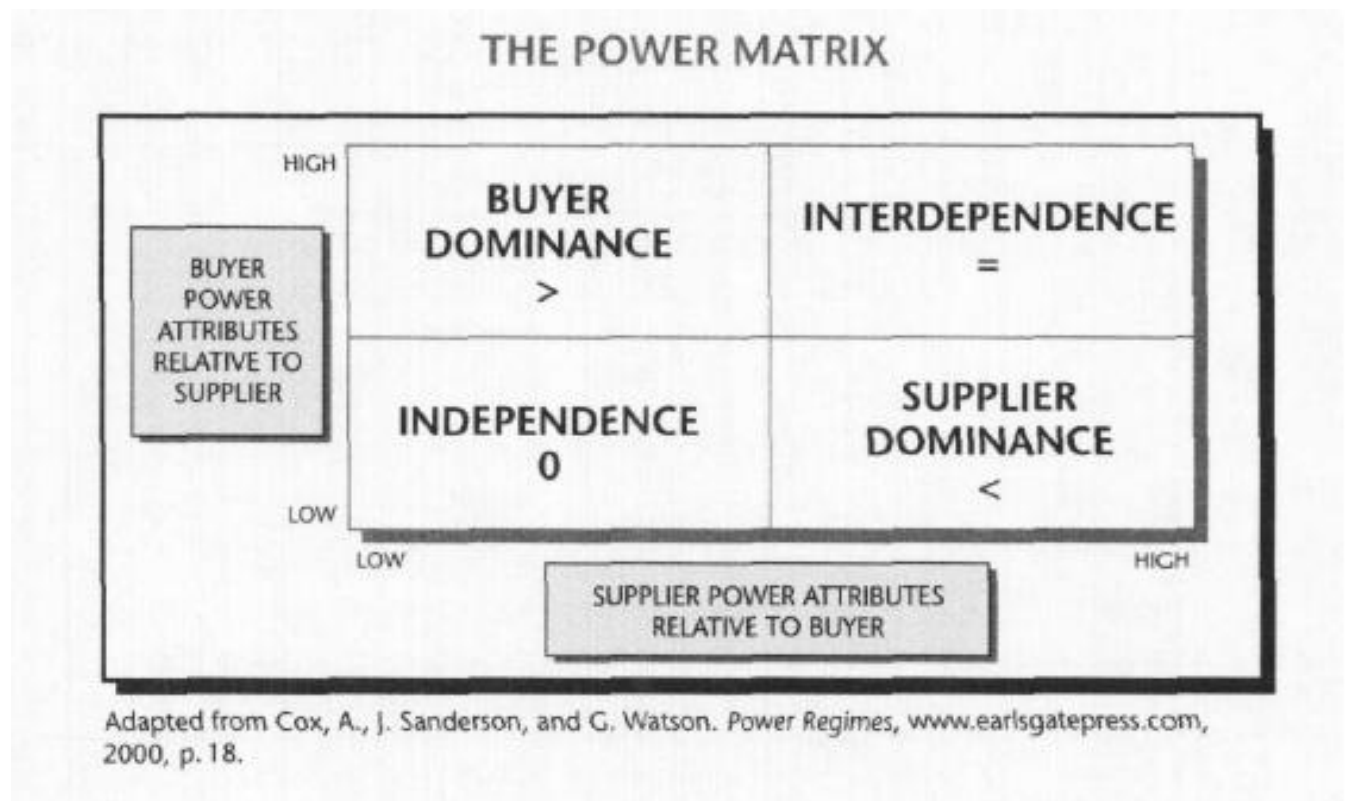
These are supply resources that close market to competitors (whether permanently or temporarily) and provide opportunities for suppliers to effectively leverage their customers (buyers). In addition to the supplier power, the business strategy is also very important in terms of the competence in procurement and supply management. Suppliers construct their business strategy upon the long-term sustainability and above-normal returns. On the other hand, Adam Smith, Economist and the author of *The Wealth of Nations*, argued that the best defense of a buyer's (consumer's) interest was to ensure that suppliers are forced to operate in highly contested markets, with perfect information for the buyer about the suppliers' respective offerings. In such circumstances, Smith argued, the supplier can only stay in business by constantly innovating vis-à-vis other competitors to pass value to the buyer. While



suppliers must earn a profit to stay in business, only perfectly competitive markets defend the buyer against the natural desire by suppliers to close markets to their competitors, so that they can earn above-normal returns.

The Power Matrix

The Power Matrix is constructed around the idea that all buyer and supplier relationships are predicated on the relative utility and the relative scarcity of the resources that are exchanged between two parties (Cox, Sanderson, and Watson, 2000). See the figure titled The Power Matrix.



In the *buyer dominance* box, the buyer has power attributes relative to the supplier that provide the basis for the buyer to leverage the supplier's performance on quality and/or cost improvement, and to ensure that the supplier receives only normal returns. This relates back to Porter's five forces in that this may be a situation in which few buyers exist in a market place of many suppliers, indicating that the buyers can often leverage their size to affect price and other terms of the contract.



In the *interdependence* box, both the buyer and the supplier possess resources that require the two parties to the exchange to work closely together, since neither party to the exchange can force the other to do what it does not wish to do. In this circumstance, the supplier may achieve above-normal returns but must also pass some value to the buyer in the form of less-than-ideal returns, as well as some degree of innovation. This level of interdependence is an opportunity to reduce the occurrence of short-term exchanges and move towards longer-term contracts. This will result in reduced transaction costs and potentially improve the buyer-supplier relationship as a result.

In the *independence* box, neither the buyer nor the supplier has significant leverage opportunities over the other party, and the buyer and the supplier must accept the current prevailing price and quality levels. Fortunately for the buyer, this price and quality level is often not that advantageous for the supplier because the supplier has few leverage opportunities and may be forced to operate at only normal returns. In situations like this, the contract vehicle of choice should be a BPA.

In the *supplier dominance* box, the supplier has all of the levers of power. It is in this box that one would expect the supplier to possess many of the isolating mechanisms that close markets to competitors and many of the barriers to market entry that allow above-normal returns to be sustained. In such an environment, the buyer is likely to be both a price and quality receiver. In situations such as this, relationships do not need to be strategically sourced, regionalized, or otherwise consolidated as they diminish the chances that competition will arise to move them towards buyer-dominance.

The ideal situation for buyers is logically to force all of their suppliers into the buyer dominance box. However, this ideal circumstance for the buyer is not always possible in the real world because of the countervailing power resources (attributes) available to the supplier. In short, while buyers are trying to reposition in the Power Matrix to augment their power resources vis-à-vis their suppliers, suppliers are also



working to reposition themselves out of the buyer dominance quadrant to move as close to the supplier dominance quadrant as they are able.

As a result, buyers should not be judged only on their ability to move all of their supply relationships into the buyer dominance box. On the contrary, competence resides in the ability of the buyer to shift the current supply relationships from where they currently lie either into the buyer dominance box or, if this is not possible, into an alternative location that provides for a more effective leverage of quality and cost (Cox, 2001).

Market Intelligence

The Cox Power Matrix serves us to understand the power of buyer and supplier. By understanding and applying this framework, the managers can enhance effective procurement and supply management. The figure titled The Attributes of Buyer and Supplier Power provides a description of some of the key attributes that one might expect to find if one were trying to position buyer and supplier relationships using the Power Matrix.



THE ATTRIBUTES OF BUYER AND SUPPLIER POWER

ATTRIBUTES OF BUYER POWER RELATIVE TO SUPPLIER	HIGH	BUYER DOMINANCE	INTERDEPENDENCE	
		<ul style="list-style-type: none">• Few buyers/many suppliers• Buyer has high % share of total market for supplier• Supplier is highly dependent on buyer for revenue with limited alternatives• Supplier switching costs are high• Buyers switching costs are low• Buyers account is attractive to supplier• Supplier offerings are commoditised and standardised• Buyer search costs are low• Supplier has no information asymmetry advantages over buyer	<ul style="list-style-type: none">• Few buyers/few suppliers• Buyer has relatively high % share of total market for supplier• Supplier is highly dependent on buyer for revenue with few alternatives• Suppliers switching costs are high• Buyer switching costs are high• Buyers account is attractive to supplier• Supplier offerings are not commoditised and customised• Buyer search costs are high• Supplier has significant information asymmetry advantages over buyer	
	LOW	INDEPENDENCE	SUPPLIER DOMINANCE	
		<ul style="list-style-type: none">• Many buyers/many suppliers• Buyer has relatively low % share of total market for supplier• Supplier is not dependent on buyer for revenue and has many alternatives• Supplier switching costs are low• Buyers switching costs are low• Buyers account is not particularly attractive to supplier• Supplier offerings are commoditised and standardised• Buyer search costs are relatively low• Supplier has only limited information asymmetry advantage over buyer	<ul style="list-style-type: none">• Many buyers/few suppliers• Buyer has low % share of total market for supplier• Supplier is not at all dependent on the buyer for revenue and has many alternatives• Supplier switching costs are low• Buyer switching costs are high• Buyers account is not attractive to the supplier• Supplier offerings are not commoditised and customised• Buyer search costs are very high• Supplier has high information asymmetry advantages over buyer	
	LOW	ATTRIBUTES OF SUPPLIER POWER RELATIVE TO BUYER		HIGH

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The Acquisition Process

After using the Cox Power Matrix to assess your relative power as a buyer, you would try to find ways to move to the buyer dominance portion of the matrix. You would try to use your relationship with the supplier in the post-award arena to increase your power as a buyer but must be careful not to treat the relationship as purely transactional and ruin the relationship with the supplier. Avoidance of transactional relationships is particularly important in situations where supplier dependence is high, for example, in a situation where only one source is available. Here you would seek to build mutual trust between the supplier and buyer so that the supplier will feel less inclined to engage in opportunistic behavior (i.e., price gouging). While the FAR does encourage open communication between the Government and the contractor, most communications come across as adversarial and portray the contract as a “Government vs. contractor”. The lack of proper communication does inhibit the ability of both the contractor and



Government to engage in efforts to maintain a relational exchange, but it is not impossible to accomplish.

If you find yourself in a position of supplier dominance, try developing more sources by redesigning the product or service or your requirements so that more firms can compete and therefore competition becomes greater. This will decrease the supplier's power. Another way to decrease the supplier's power is to lower the switching costs by using a contract vehicle with easy on/off ramps (such as BOAs, predetermined T4C settlement CLINs, etc.). Always assess your relative clout as a buyer by examining how much of the supplier's revenue your business constitutes. When you are in a situation that requires the use of a dominant supplier, use evaluation criteria that will help you select a supplier whose goals are congruent with yours.

Value Curves and SWOT

SWOT Analysis (Strengths, Weaknesses, Opportunities, and Threats) is a business model that can be used when conducting market research. SWOT analysis begins after the environmental analysis. The SWOT model analyzes both the internal organization characteristics (strengths and weaknesses) and external organizational (opportunities and threats) conditions. From the model, an organization can determine a course of action to meet strategic goals based on favorable environmental conditions (strengths and opportunities) and unfavorable environmental issues (weaknesses and threats) (Ferrell, Hartline, Lucas, & Luck, 1998).

The SWOT model can be applied to any organization. In the case of market research, the SWOT model can be applied to the purchasing office as well as the suppliers of new products and services. The most important take-away after completing the SWOT analysis is the start of a strategy formulation to meet your objectives. The end game is to maximize strengths and opportunities and minimize weaknesses and threats (Mind Tools, n.d.). Let's look at each element of the SWOT model individually.

Strengths are things that the organization does well. The strengths should be created based on multiple points of view, that is, strengths that are internal as well as



strengths that customers see. In coming up with strengths, you should ask the following questions:

- What advantages does the organization have?
- What does the organization do better than anyone else?
- What unique resources can the organization draw upon that others can't?
- What do the customers see as the organization's strengths?
- What are the organization's unique selling points?

(Mind Tools, n.d.)

Weaknesses are things that the organization doesn't do well. Weaknesses should also be created based on multiple points of view. Some questions to ask are the following:

- What could the organization improve?
- What should the organization avoid?
- What do the customers see as the organization's weakness?
- What factors increase risk?
- What factors take away from business?

(Mind Tools, n.d.)

Opportunities are favorable business factors. These are areas that can be exploited and improved upon. It is helpful to evaluate the organization's strengths and weaknesses for possible opportunities. Some questions to ask include the following:

- What opportunities can you spot?
- What are the trends?

(Mind Tools, n.d.)

Threats are unfavorable business factors. Some questions to ask include the following:



- What obstacles does the organization face?
- What is the competition doing?
- Are quality standards or specifications for your job, products, or services changing?
- Is changing technology threatening the organization's position?
- Does the organization have bad debt or cash-flow problems?
- Could any of the weaknesses seriously threaten the organization?
- Are there new Government regulations?

(Mind Tools, n.d.)

SWOT Analysis Template

Contracting personnel can perform a SWOT analysis during the acquisition strategy phase. This template could then be used to visually depict the SWOT analysis in the acquisition strategy plan. However, we need to differentiate SWOT that we conduct with a supplier vs. SWOT that we conduct on ourselves as an organization. SWOT for ourselves is used to develop our Needs. SWOT for our suppliers is used to develop our Environment assessment.

The first SWOT example shown in this section is for an organization (see table titled SWOT Analysis for an Organization). Many criteria can apply to more than one quadrant. Identify criteria appropriate to your own SWOT situation.



SWOT Analysis for an Organization

Criteria Examples What advantages does the organization have? What does the organization do better than anyone else? What unique resources can the organization draw upon that others can't? What do the customers see as the organization's strengths? What are the organization's unique selling points?	Strengths	Weaknesses	Criteria Examples What could the organization improve? What should the organization avoid? What do the customers see as the organization's weakness? What factors increase risk? What factors take away from business?
Criteria Examples What opportunities can you spot? What are the trends?	Opportunities	Threats	Criteria Examples What obstacles does the organization face? What is the competition doing? Are quality standards or specifications for your job, products, or services changing? Is changing technology threatening the organization's position? Does the organization have bad debt or cash-flow problems? Could any of the weaknesses seriously threaten the organization? Are there new Government regulations?

The second SWOT example is for the suppliers. An example of a completed SWOT analysis for the Facility Management suppliers is shown in this section (MTW Research, 2010).



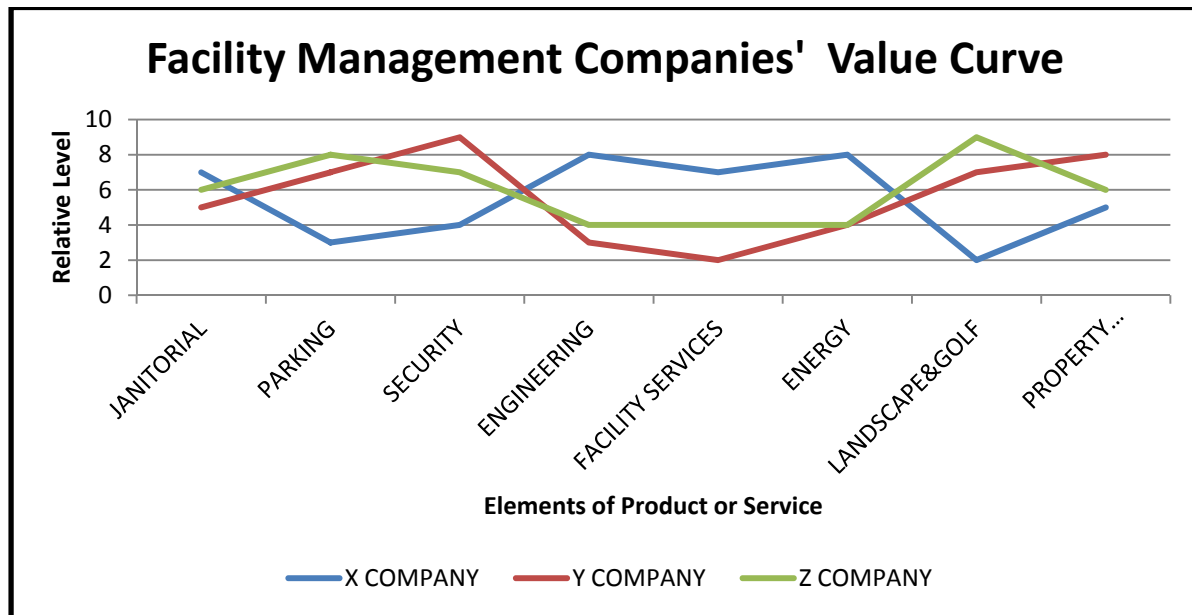
SWOT Analysis for Facility Management Suppliers

STRENGTHS	WEAKNESSES
<ul style="list-style-type: none"> • Long term contracts mean companies can accurately predict 80%-90% of future revenues facilitating strategic & operational planning. • High customer loyalty – some companies quoting 90% of re-bids are successful. • Economies of scale are evident in the industry- the larger the company, the greater the profitability. • Wide range of end use sectors & markets means industry not reliant on just 1 or 2 sectors. • Most companies operate flexible and agile business models enabling them to shift focus according to changes in market demand. • Acknowledgement by industry that selectivity of opportunities is crucial in some sectors; not all projects are profitable or worthwhile. • Contract retention rates remain high throughout the industry, estimated at 80-90%. • High management retention rates reported at around 90-95%, resulting in skilled & experienced corporate management. • Market underpinned by public expenditure with spending committed until 2012 in areas such as education, transport, housing and healthcare. • 80% of companies are more than 6 years old. • Majority of companies are experienced & well established trading history. • Efficient management systems & processes used by majority of FM companies to protect margins. • Underpinned by the key drivers of outsourcing in order for clients to focus on core competencies. • More than 70% of the industry has a fair to excellent credit rating. 	<ul style="list-style-type: none"> • An estimated 70% of contracts within FM industry are “single service” contracts which offer lower profitability opportunities. • Workforce in lower skilled sectors of FM industry often lack motivation & result in high level of “staff churn.” • Declining client loyalty in some more price sensitive sectors. • Growing level of pricing pressure from ongoing impact & legacy of recession. • Lack of focus on differentiation evident by some single service FM providers. • Substantial fragmentation in the industry results in high level of competition, particularly in smaller scale, non-specialist contracts. • Decline in availability of labor as exodus of employees from East Europe return home. • Minimal or no acceptance by clients of price rises of non-differentiated services. • Some key end use markets strongly affected by recession, e.g., retail, restaurants & pubs sector. • Total profitability in the industry stands at less than 3% in 2010. • Many FM services are typically regarded as a “commodity” service, a necessity rather than a luxury and therefore are price sensitive • Minimal intrinsic or extrinsic motivation for employees evident.
OPPORTUNITY	THREAT
<ul style="list-style-type: none"> • Global recession creating opportunities for efficient delivery of essential services in existing & new markets. • Need to reduce public expenditure through the use of private sector outsourcing. • Both public & private clients seek to find greater efficiencies through the use of outsourcing. • FM service “bundling” offers increased multiservice opportunities as clients seek to reduce costs by exploiting economies of scale. • Outsourcing of non-core activities by SME sector provides volume demand opportunities and allows client to focus on core operations. • Local authorities need to improve efficiencies whilst budget caps prevent above inflationary rises in spending. • Rising number of prisons, focus on security & defense – use of CCTV, etc. • Rising population – congestion, healthcare, etc. • Consulting business within FM industry set to increase and expand scope as higher value, advisory projects become common. • Education – BSF, Academies Contractors Framework, Primary Schools Capital Investment & local authorities spending on education to rise. • Transport - £650 million over 5 years at airports in UK, rising levels of congestion, need for public transport to meet climate change targets. • Availability of labor is rising as a result of the recession, reducing wage inflation. • Use of new technology to enhance service delivery & offer greater differentiation. • Use of new management & motivation techniques to decrease “staff churns.” • Substantial level of fragmentation offers good opportunity for economies of scale via consolidation. 	<ul style="list-style-type: none"> • Local and central Government under increasing pressure to reduce budgets and maximize effectiveness of existing resource. • Universities lose £40m of funding for maintenance of historic buildings. • Pressure on cash flow and lack of available business finance resulting in tenants becoming less diligent on property maintenance. • PFI projects may be scaled back; conservatives have indicated that PFI debt would be put back on the balance books if they win the 2010 general election. • High level of exposure to external economic pressures as end use sectors include those • Most affected by recession • High level of exposure to Government policy changes, e.g., immigration, health & safety etc. • Growing number of end use sectors demanding same service level at lower prices. • Threat of substitutes & competition from highly fragmented & competitive market place. • Rising administration costs due to immigration control measures in 2010. • Minimal growth in public sector demand in 2012 onwards as Government likely to reign in overall spending. • Many private sector businesses are likely to be minimizing expenditure over the next 6-12 months as economic conditions remain fragile. • Clients are focused on optimizing the efficiency of their cost base with purchasing decisions based increasingly on price.
<p>© Alan Chapman 2005-09. Free PDF version of this tool and information about SWOT analysis methods are available at www.businessballs.com/swotanalysisfreetemplate.htm. This is a free resource from www.businessballs.com, which contains lots more useful tools, diagrams and materials. Not to be sold or published.</p>	



Value Curves

The value curve is a graph showing where value is created by an organization's products or services. It is “a graphic depiction of a company’s relative performance across its industry’s key success factors” (Kim & Mauborgne, 1997, p. 108). A value curve is a business model tool used in strategy formulation. Specifically, value curves are used to support the creation of value innovation. Value curves use a diagram to compare products on a range of factors by rating them on a scale from low to high (Kim & Mauborgne, 1997). This is illustrated in the figure titled Facility Management Companies' Value Curve.



“Rivals try to improve value by offering a little more a little less, but most don’t challenge the shape of the curve” (Kim & Mauborgne, 1997, p. 108). Basically, a company tries to out-value their competition at a lower price. It’s the value to the customer that is important; it is not having the best specifications or being first to the market, but it is important to offer more value at a lower price than the competition for a particular market segment.

There are several uses of the value curve model within the market research part of the acquisition. First, organizations can use the model to evaluate what the customer



really values. Oftentimes, the internal customer is not an expert in defining requirements, and this tool can help decipher what is important. Based on the relative value of needed attributes, the buying organization could then use this information to establish the relative weights of technical evaluation criteria. The buying activity can then conduct market research to source the best value at the lowest price based on the specs that are valued by the customer. Another use of the value curve is to compare suppliers with each other and realize new markets and potentials for strategic sourcing and bundling based on projected and/or overlapping value curves of industry. For example, if the agency sees that security services and janitorial have similar value curves then we may infer, along with many other considerations, that they are ripe for consolidation. From the comparison, a buying activity can determine which supplier provides the better value at the lower price. It is important to note that a direct comparison of suppliers to each other should only occur during the pre-solicitation and market research phases. Once proposals have been received, agencies are limited to comparing offers to the evaluation criteria (and not to each other).



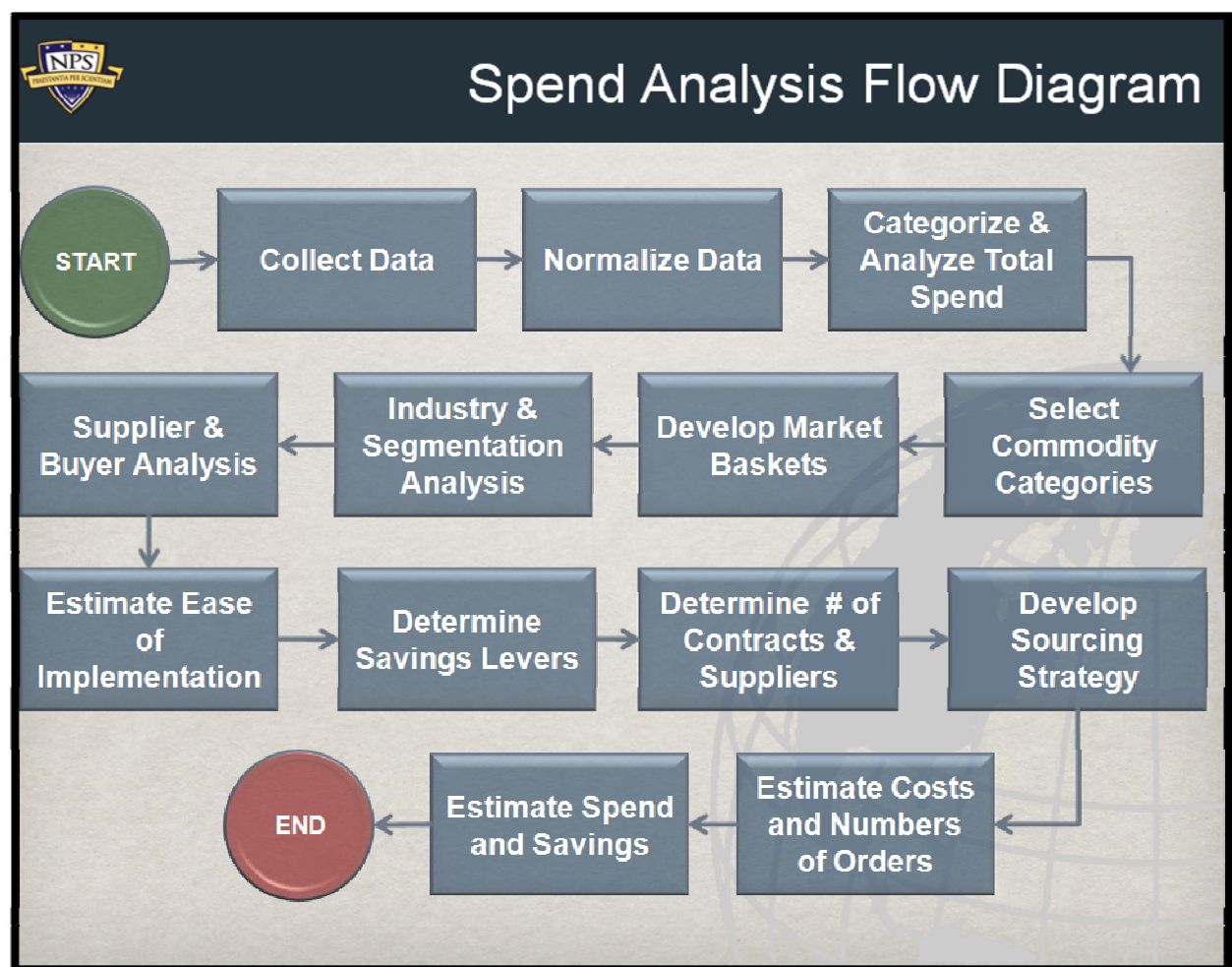
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Appendix C: Spend Analysis Example

Example (Muir, 2010):

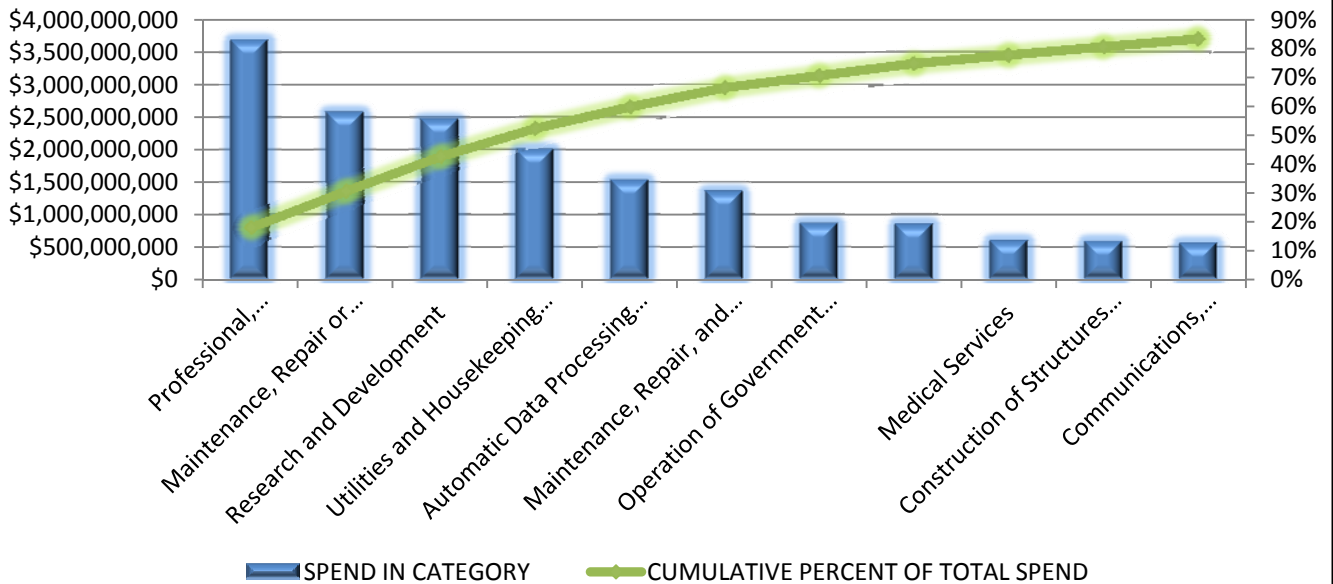
The following is an example of spend analysis conducted by students in the MBA program at NPS for custodial services. This type of spend analysis would feed directly into the inputs of broader categories, such as the MR report example for Facilities Management in Part III of this guide. This appendix provides a flow diagram of steps to take, along with key data products derived from taking these steps, which can aid in making an MR report, and eventually, acquisition planning decisions in the pre- and post-award phases.



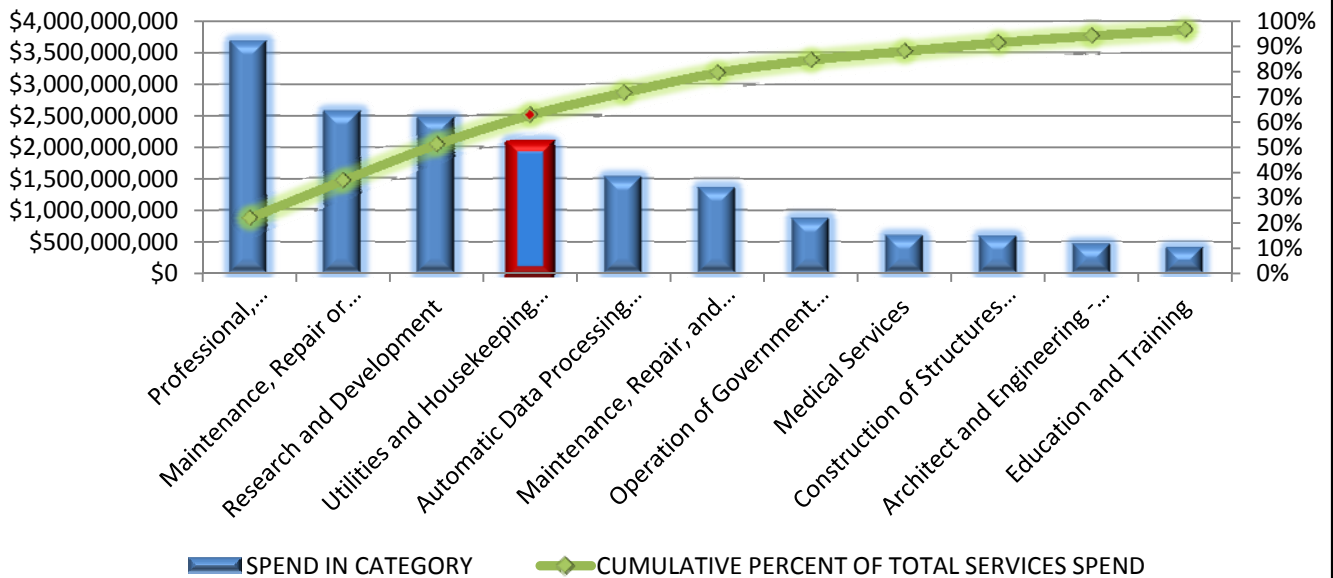
Spend Analysis Flow Diagram



PARETO CHART OF SPEND BY COMMODITY CATEGORY: TOTAL SPEND FY07 & FY08



PARETO CHART OF SPEND BY COMMODITY CATEGORY: SERVICES



CUSTODIAL SERVICES

SPEND SUMMARY FY07 - FY08

TOTAL RECORDS:	1,883
TOTAL ACTIONS:	1,883
TOTAL DOLLARS:	\$282,289,313.00
AVERAGE DOLLARS PER RECORD:	\$149,914.66
AVERAGE DOLLARS PER ACTION:	\$149,914.66

TOTAL SMALL BUSINESS DOLLARS:	\$121,800,762.00
TOTAL LARGE BUSINESS DOLLARS:	\$160,488,551.00
TOTAL SMALL BUSINESS RECORDS:	1,118
TOTAL LARGE BUSINESS RECORDS:	765
PERCENT RECORDS TO SMALL BUS:	59.37%
PERCENT RECORDS TO LARGE BUS:	40.63%
AVERAGE SB DOLLAR PER RECORD:	\$108,945.23
AVERAGE LB DOLLAR PER RECORD:	\$209,788.96
TOTAL SMALL BUSINESS ACTIONS:	1,118
TOTAL LARGE BUSINESS ACTIONS:	765
PERCENT ACTIONS TO SMALL BUS:	59.37%
PERCENT ACTIONS TO LARGE BUS:	40.63%
AVERAGE SB DOLLAR PER ACTION:	\$108,945.23
AVERAGE LB DOLLAR PER ACTION:	\$209,788.96

TOTAL NON-COMPT. DOLLARS:	\$198,110,553.00
TOTAL COMPETITIVE DOLLARS:	\$84,178,760.00
TOTAL NON-COMPT. RECORDS:	1,685
TOTAL COMPETITIVE RECORDS:	198
PERCENT RECORDS NON-COMPT.:	89.48%
PERCENT RECORDS COMPETITIVE:	10.52%
AVERAGE NON-COMPT. \$/RECORD:	\$117,573.03
AVERAGE COMPETITIVE \$/RECORD:	\$425,145.25
TOTAL NON-COMPT. ACTIONS:	1,685
TOTAL COMPETITIVE ACTIONS:	198
PERCENT ACTIONS NON-COMPT.:	89.48%
PERCENT ACTIONS COMPETITIVE:	10.52%
AVERAGE NON-COMPT. \$/ACTION:	\$117,573.03
AVERAGE COMPETITIVE \$/ACTION:	\$425,145.25

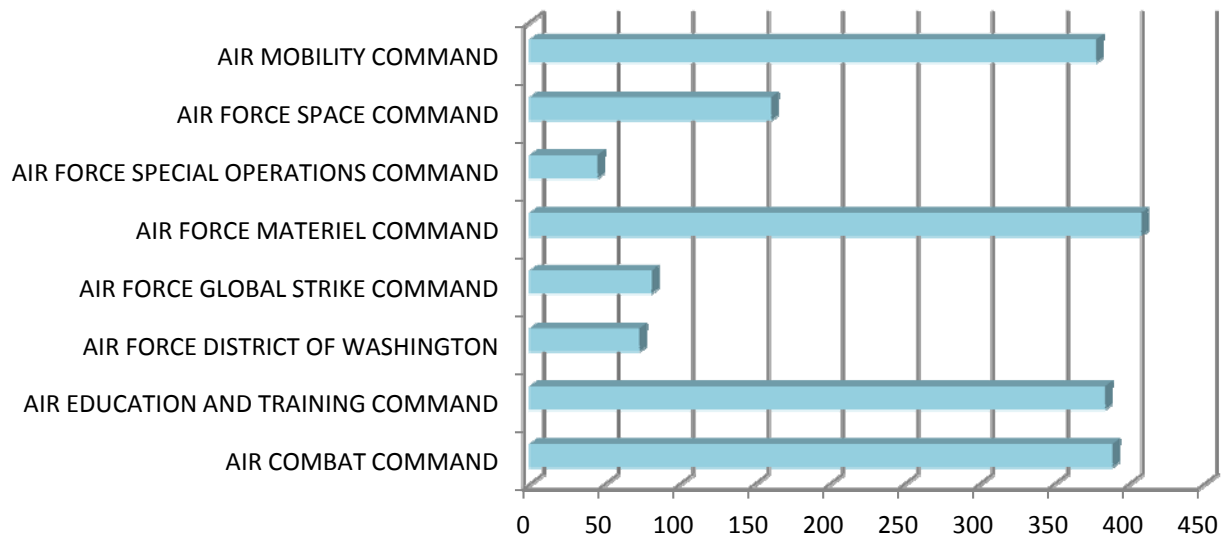


TOP 10 OF 142 SUPPLIERS

1.	JXM INC/MBM INC JV:	\$18,384,149.00
2.	NATIONAL MAINTENANCE INC:	\$13,110,032.00
3.	HOSPITAL KLEAN OF TEXAS:	\$11,203,730.00
4.	WINCOR MANAGEMENT GRP:	\$9,985,400.00
5.	ISS TMC SERVICES, INC.	\$9,237,923.00
6.	BREVARD ACHIEVEMENT CTR*:	\$8,914,704.00
7.	LAKEVIEW CENTER INC*:	\$8,723,476.00
8.	KENTUCKY BLDG MAINT INC:	\$8,379,012.00
9.	DAVIS SCHOOL DISTRICT:	\$8,326,336.00
10.	PRIDE INDUSTRIES*:	\$7,544,604.00
	ALL OTHERS:	\$178,479,947.00

*NOTE: NISH ORG. TOTAL NISH = 736 ACTIONS; \$122,319,875
OR 43.33%

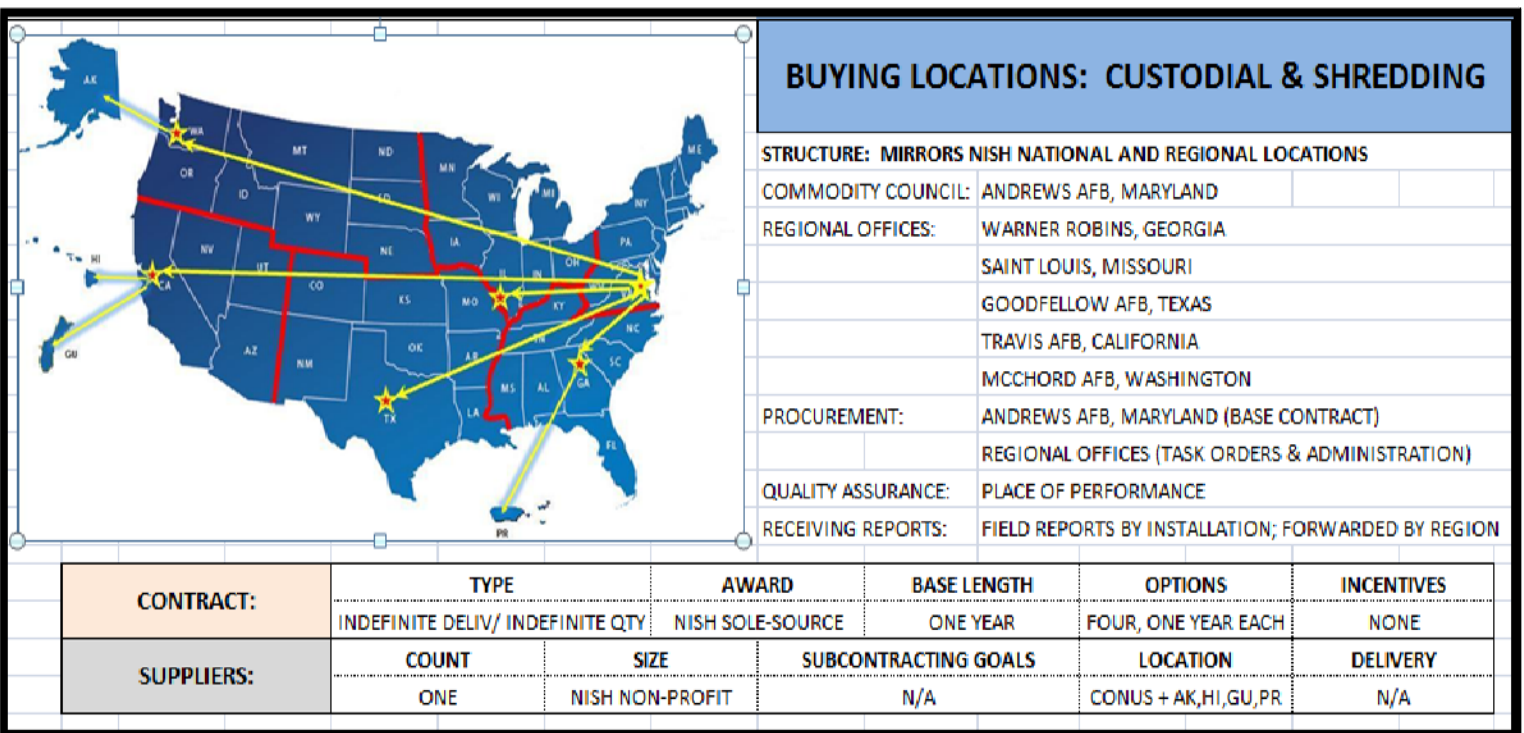
CUSTODIAL & SHREDDING SERVICES: ACTIONS BY MAJCOM, FY07 - FY08





TOP SUPPLIER SPEND BY MAJCOM									
	TOP 13 NATIONAL SUPPLIERS	AIR COMBAT COMMAND	AIR EDUCATION AND TRAINING COMMAND	AIR FORCE DISTRICT WASHINGTON	AIR FORCE GLOBAL STRIKE COMMAND	AIR FORCE MATERIEL COMMAND	AIR FORCE SPECIAL OPS COMMAND	AIR FORCE SPACE COMMAND	AIR MOBILITY COMMAND
CUSTODIAL AND SHREDDING SERVICES	JXM INC/MBM INC JOINT VENTURE	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	NATIONAL MAINTENANCE, INC.	0.00%	0.00%	99.83%	0.00%	0.17%	0.00%	0.00%	0.00%
	HOSPITAL KLEAN OF TEXAS, INC.	0.00%	0.00%	99.97%	0.00%	0.00%	0.00%	0.00%	0.03%
	WINCOR MANAGEMENT GROUP INC	0.00%	52.90%	0.00%	0.00%	39.85%	0.00%	7.24%	0.00%
	ISS TMC SERVICES, INC.	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	BREVARD ACHIEVEMENT CENTER INC	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%
	LAKEVIEW CENTER INC	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
	KENTUCKY BUILDING MAINTENANCE INC	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	DAVIS SCHOOL DISTRICT	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	PRIDE INDUSTRIES INC	25.94%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	74.06%
	OKLAHOMA CNTY COUNCIL FOR MENT...	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	SUPPORT SERVICES OF AMERICA INC	0.00%	16.99%	0.00%	0.00%	62.91%	0.00%	0.00%	20.10%
	OKLAHOMA GOODWILL INDUSTRIES INC	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%	0.00%	0.00%
	TOTALS	12.74%	15.23%	24.07%	1.64%	20.24%	1.19%	9.10%	15.79%

Geo Mapping of Notional Commodity Council and Possible Regional Offices for Custodial Services



Appendix D: RFI Example

Examples of RFI for Facilities Management

Solicitation Number:

CP-05-05-11-01

Notice Type:

Sources Sought

Synopsis:

Added: May 05, 2011 11:47 am

Project Description REQUEST FOR INFORMATION (RFI)

Total Facilities Management (TFM) Services

The AbilityOne Program defines TFM Services as facilities-based services which include:

Army Directorate of Public Works – DPW
Base Operation and Support – BOS
Base Operations Support Services – BOSS
Central Facilities Management – CFM
Civil Engineering Services - Air Force CE
Facilities Maintenance (FM)
Facilities Management (FM)
Facilities Support Services - FSS

Project Details On behalf of the AbilityOne Program, NISH, a designated central nonprofit agency, is gathering data in order to develop a pre-qualified list of commercial firms interested in providing subcontracted services to nonprofit agencies (NPA's) to perform on AbilityOne TFM contracts.

The purpose of this request is to gather information for planning purposes only from commercial firms that may be used to establish a pool of pre-qualified commercial subcontractors for the TFM Line of Business (LOB) in accordance with standard practice and procedure as outlined in the Committee's Operations Memorandum #21. (http://www.abilityone.gov/policy_memo/Ops_Memo_21_05.01.06.pdf)

Please note that the purpose of this RFI is not to make any specific contract/subcontract awards to a commercial firm regarding TFM contracts, but to gather critical information for future AbilityOne business development activities. It does not constitute an Invitation for bids, a Request for Proposals, a Solicitation or a Request for Quotes and is not to be considered as a commitment by the Government. The Government does not reimburse



respondents for any cost associated with submission of the information being requested or reimburse expenses incurred to interested parties for responses to this RFI.

If you are a commercial firm that currently performs any of the services listed in the project description box above, we would greatly appreciate a response to this RFI to further establish the capability and capacity of commercial business for this LOB.

This is a time restricted endeavor. It is critical that those commercial firms responding identify a key POC to address further any questions and to provide follow-up information as necessary.

Project Background Information/History Procurement List (PL)

Pursuant to the Javits-Wagner-O'Day Act (41 U.S.C. 46-48c), as implemented by 41 C.F.R. Chapter 51 and FAR Subparts 8.0 and 8.7, the AbilityOne Program maintains a Procurement List (PL) of products and services that have been determined to be suitable for procurement by the Government. Once a product or service is on the PL, the Government must obtain it from the NPA designated by the Committee until the Government no longer has a requirement for the product or service, or until a NPA employing people who are blind or with severe disabilities can no longer furnish the product or service.

AbilityOne Vendor Capability & Capacity

AbilityOne Vendors (NPAs) are a network of nonprofit organizations and agencies that provide services to persons who are blind or have other significant disabilities. They are generally community-based and are operated independently, including many Lighthouses for the Blind, or as part of a national affiliate-based organization such as Easter Seals or Goodwill Industries.

TFM Services performed through AbilityOne can include but not limited to:
Facility Operations & Maintenance (O&M)

Work Order Management

(Standard Service Orders, Emergency Service Orders

Individual Job Orders)

Public Work Services

Plumbing, Electrical, Sign Shop, Carpentry Shop

Utility Systems (O&M)

Heating/Cooling Plants

Water Treatment

Waste Management

Pest Control

Security Services

Dining Facility Equipment Maintenance

Family Housing Management

Billeting

Structures

(Locksmiths, Craftsmen, Appliances)



Environmental
Fleet & Transportation Management
Hospital Maintenance
HAZMAT Handling
Engineering & Construction Management
Roads & Grounds Maintenance
(Heavy Equipment, Operators, Dispatchers, Mechanics)
Custodial Services
Supply Chain Solution Management
(Warehousing of Materials, Materials Management)
Self-Help/U-DO-IT Services
Contingency Operations / Locations (COL)

Next Steps

Please respond in detail to each of the listed functional areas and provide any supporting documentation that you feel would help substantiate your input regarding your organization's capacity and capabilities.

All information, documentation and or other data provided to AbilityOne in response to this RFI will be considered confidential.

Executive Summary

Please provide a capability summary that illustrates your firm's experience and expertise in the TFM LOB.

Current Relevant / Past Performance

Please share information on your organization's current experience related to TFM contracts preformed for Government agencies, DOD or commercially.

1. Please provide a list of TFM contracts currently or previously performed by your organization. Please specify if you were the prime or subcontractor; the value of your portion of work; and the number of employees required to perform the work. Please share a brief description of the type of work performed, type of location and info about the customer.
2. Provide a summary of contracts/subcontracts or examples of where your organization has experience in working with AbilityOne NPAs. Please supply adequate detail to include, but not limited to the NPA, contract, customer, and term of the partnership.

Employment of Individuals with Significant Disabilities

In this section of your response, please detail your company's current initiatives related to the employment of individuals with disabilities. Examples may include:

- Statistics related to your organizations current workforce
- Hiring practices and/or procedure related to disabilities
- Disability training and awareness programs



- Corporate Goals related to disabled employment

Partnerships and Subcontracting

In this section, please provide specific information to demonstrate success and experience related to partnerships with NPAs and small businesses.

1. Please provide detailed information regarding your organization's experience with NPA or small business partners and explain how this would be an advantage for future opportunities.
2. Please give specific examples of partnering success.
3. What processes does your firm have in place that helped establish these relationships?

Financial

1. Please provide information regarding your organization's ability to support the type of financial requirements necessary to support TFM contracts.
2. Please provide information regarding your current level of insurance for this type of work, to include the levels and type of liability coverage related to your TFM work.
3. Describe your risk mitigation infrastructure and supports.

Management

Senior level management must be in a position to support new TFM contracts with a significant level of involvement. These contracts are very demanding and require a tremendous commitment of corporate resources.

1. How is your organization currently structured to manage and support expanded work beyond your current area of operation?
2. Please provide a copy of your company's/department's organizational structure and any proposed changes to support new TFM contracts.

Technical Operations

Please provide an overview of your current staffing for TFM or future plans for hiring TFM technical resources, to include information regarding their area of expertise in a certain critical function such as HVAC, Electrical, and General. Please specify whether their background is with Federal, Commercial, Campus Style, or Single Story Buildings



Mentoring and Training

Through the development of increased capabilities and capacity of our NPA network comes the opportunity to increase our market share.

1. Does your agency currently have an Apprenticeship / Training Program that could be tailored to the needs of our NPAs? Please explain.
2. Have you utilized this program successfully in the past?
3. Are you currently mentoring any other organizations, or have you in the past? Please explain.
4. Are you willing to mentor an NPA partner?

IT: Computerized Maintenance Management Systems (CMMS)

A CMMS is standard to this LOB. Many, if not all, Federal Agencies that procure these types of services will require the contractor to provide a CMMS or will require the contractor to input and maintain TFM data into an existing Government data system. These systems should be up and running on day one of the services and the employees on the contract should be familiar / trained with accessing and utilizing the system to ensure continuity between contractors.

1. Has your company implemented, developed or managed such a system on previous contracts?
2. If so, what systems do you currently use or have used in the past?
3. Please provide a detailed summary of your firm's experience in working with these CMMS systems and any SOPs or other documentation that supports this experience.

Contract Pricing - TFM

Many DPW/BOS contracts are moving from a Cost-Plus contract to a Firm Fixed Price contract. Because these contracts have traditionally been Cost-Plus, the work estimates may not be as accurate and detailed as necessary to help develop a new Firm Fixed Price. Additionally, these contracts often require audited overhead rates IAW the Defense Contract Audit Agency (DCAA).

1. What is your current accounting system and can it handle the details attributed to CAS compliance and DCAA audit standards?
2. Has your organization ever been subject to a DCAA audit? If so, what were the results?



3. Describe experience that you have with Davis-Bacon Act wages, collection of payroll for invoicing, etc.
4. Describe pricing and estimating tools/experience for Alterations and Renovations (GSA prescribed, RS Means, Customer provided, commercial standards, proprietary/bid schedule system)

NOTE: the entire response package should not exceed 20 pages. RESPONSES ARE DUE on or before MAY 31, 2011 5PM EDT.

AbilityOne Point of Contact

Name, NISH National Office

E-mail

Address

Contracting Office Address:

Unit and Address

Place of Performance:

NISH National Office

Address

United States

Primary Point of Contact:

Name

mkessler@nish.org

Phone:

(Kessler, 2011)



Appendix E: Industry Analysis Example for Facilities Management

Overview

Industry analysis is a market assessment tool that helps determine the complexity of a particular industry. There are many things to consider when evaluating an industry to include economic, political, and market factors. Analyzing the industry is a very important step in the market research process. Each industry is unique; thus, creating a systematic approach is not going to be effective. It helps to determine the strategy that the acquisition team should use, considering the current status of the industry or industrial sector. By defining the industry, one can better assess competition and make determinations with regards to special contracting methods.

In order to better analyze industry standards, the example of facilities management will be used. Subject to AFI 63-101, chapter 4, facilities management is a service contract that refers to property management, property maintenance activities, and waste management services. This industry typically provides the overall staffing and operations of a combination of services to include janitorial, heating and air, waste collection, and security. The following is a breakdown of each of these industries to include an analysis of the industry, its competition, consolidation and/or bundling, the regulations, and “green” initiatives. The industry analysis will be presented in the form of Porter’s five forces. This chapter is simply a snapshot of the five industries that make up facilities management.





Analysis of Industry for Facility Maintenance

Property Management NAICS 53131

Industry Definition: Establishments in this industry manage residential and nonresidential real estate for others. Property management responsibilities relate to the overall operation of the real estate asset including leasing, maintenance, rent collection, trash removal, and security.

Competition: The U.S. Property Management industry has a moderate level of competition due to low barriers to entry and low capital requirements. Industry participants generally provide similar services as their competitors; thus, it is important for participants to differentiate themselves from their competitors. To do this, firms try to focus on the quality and range of services offered to clients. Service quality is particularly important, as property managers generally act as the liaison between real estate investors and tenants. As a result, it is important for property managers to properly maintain buildings and keep tenants happy, as high occupancy rates and tenant retention is important for maintaining strong cash flows for real estate investors and owners.



Property Management



Janitorial Services NAICS 56172

Definition: Establishments in this industry clean building interiors, interiors of transportation equipment (e.g. aircraft, rail cars, and ships), and windows. Industry activities include contract cleaning services for factories, retail outlets, shopping centers and malls, business and government offices, trains and airlines, and house-cleaning services.

Competition: Most commercial cleaners operate under one-year contracts with clients, with extremely short contract termination periods due to the terms and conditions agreement in which a contract can be terminated by either party with at least 90 days notice. This benefits the clients, but is extremely detrimental to Janitorial



Services operators undertaking any medium-term planning. It also encourages price-based competition with little care for achieving the required cleaning outcomes. Price-based competition is now more prevalent after the economic recession, which reduced the willingness of clients to pay full rates for contracted janitorial services. A large number of small business operators increases competition for contracts, particularly on a price basis. Providers of janitorial services must be able to operate in an environment of high volume and low net margins as fierce competition among players keeps service prices low. There are a number of contracts in some areas of the healthcare, food processing, pharmaceutical manufacturing, and electronics industries that require higher guaranteed cleaning standards, (e.g., the cleaning of areas where dust-free environments are necessary). In these cases, higher cleaning fees can usually be negotiated. The franchising of the domestic and commercial cleaning services market has also increased with these firms focusing more on reliability and having the ability to guarantee service and standards.

Bundling/Consolidation: Increasingly, major operators are offering clients total bundled service contracts, which include catering, maintenance, security, and cleaning. However, these services only account for about 5.7% of industry revenue. These services can be provided by one company or through strategic alliances between a company and its partners.

Terms & Conditions: Commercial cleaning contracts typically have a one-year duration and can be terminated by the operator or the client with 30–90 days of notice. Multi-year contracts are not a commercial practice and option years are the most consistent with private practice.



Janitorial Services



Waste Collection Services NAICS 56211

Industry Definition: This industry collects hazardous and non-hazardous waste and recyclable materials. Non-hazardous waste includes municipal solid waste (household garbage) and industrial and commercial waste. The industry includes transfer stations, where waste is transferred from local vehicles to long-distance vehicles for transport to disposal facilities. This industry does not cover municipalities that directly provide waste collection services.

Competition: The top four operators in this industry currently have a market share of about 61.7%, up from about 45.0% a decade ago. The ability to offer the full range of services in collection, recycling, transfer, and disposal services gives companies an



advantage when tendering for collection contracts. The Waste Collection Services industry is very competitive, with the main points of competition being price and quality of the service provided. While there are a few very large companies offering waste collection services on a national basis, there are numerous very small collection firms offering collection services on a local basis. The location of waste collection activity in the United States largely reflects the size and distribution of the population and industrial activity. Other factors include the structure of the local economy (some industries produce more waste than others, or produce hazardous waste which requires more resources to collect and dispose), and the commitment to and level of recycling collection activity. Waste collection normally involves one driver per truck, following a set route, collecting from households and commercial properties. However, facilities can employ a varying number of drivers, depending on the density of the area and its collection needs. As such, a state's share of industry employment generally varies from its establishment and revenue with regard to cost drivers such as fuel, trucks, and landfill fees.

Bundling & Consolidation: The Waste Collection Services industry is undergoing consolidation and vertical integration. This factor is partly driven by the more capital-intensive nature of this industry, linked to changes in waste disposal and increasing regulation. Since the early 1990s, consolidation has been underway in the industry, corresponding to the period when the growth of waste produced in the United States began to slow. Most consolidations over the past decade have been driven by larger firms acquiring smaller competitors, but this trend has begun to change as larger operators have increasingly merged with their larger counterparts. In response to increasing regulations and costs, larger firms are vertically integrating their waste management services. Consolidation has continued through the period, with enterprises declining at an average annual rate of 0.7%. In 2008, a significant merger occurred between Allied Waste Inc. and Republic Services, which were the second and third largest waste management operators, respectively, at the time. Industry consolidation is driven largely by the increasingly capital-intensive nature of the waste management sector. In particular, waste-to-energy (WTE) facilities and landfill-gas-to-



energy (LGTE) facilities are very expensive to build, and they have heavy ongoing regulation attached to their operation. Material recycling facilities are also becoming increasingly sophisticated in their sorting technology, requiring greater capital to purchase. Consolidation and vertical integration provide firms with the increasing scale required to operate efficiently and to obtain funding for such large investments.

Waste Collection



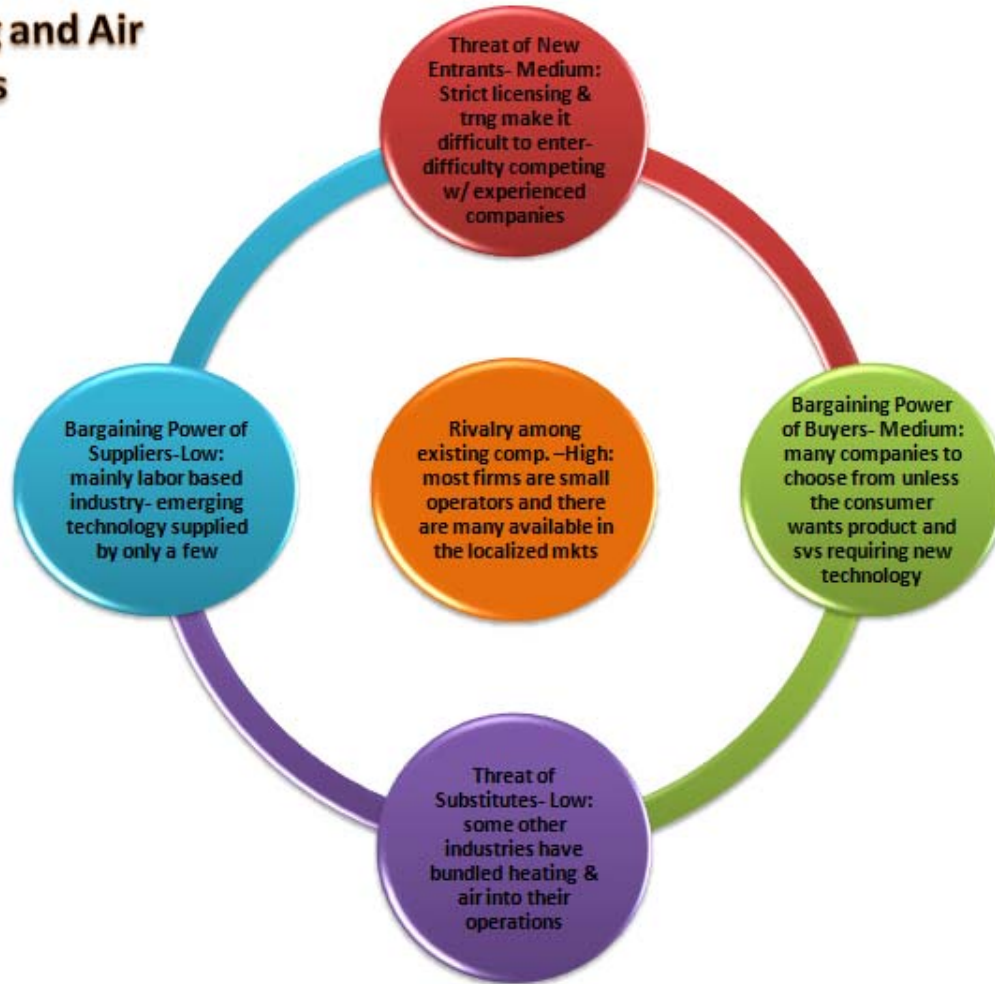
Heating and Air Services NAICS 23822

Definition: This industry consists of establishments that primarily install and service heating, ventilation, air conditioning and refrigeration equipment. The work performed includes new installations, additions, alterations, maintenance, and repairs. Demand for services from the Heating and Air Conditioning industry is heavily influenced by activity in the construction market because the majority of income is generated from heating, ventilation and air conditioning (HVAC) installations in new residential and non-residential structures. Industry operators also generate a significant share of revenue from maintaining, monitoring, and repairing existing equipment.

Competition: The majority of industry firms are small companies that specialize in specific regions or industries. However, over the past decade external competition has increased, as several different industries offer heating, ventilation and air conditioning-related services, including manufacturers, electricians, general contractors, and retailers. These external competitors have consistently expanded HVAC and refrigeration services over the past decade to increase revenue and diversify operations. As a result of this trend, competition within this sector has steadily increased. In addition to external competitors, industry operators also compete with each other, mainly in localized markets, as most firms are small operators.



Heating and Air Services



Industry Standards and Codes

Industry Standards and Codes: Installation and maintenance services are subject to industry-based standards governing approved by the American National Standards Institute (ANSI). These standards are encompassed in the ARI/ANSI and ARI/CSA Standards and Guidelines (ARI is the Air Conditioning and Refrigeration Institute), standards set out by the American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE). The International Association of Plumbing and Mechanical Officials' (IAPMO) Uniform Mechanical Code sets out the requirements for the installation and maintenance of industry systems.

“Green” Initiatives: Over much of the past decade, the United States has been in the midst of a “green movement” due to environmental concerns regarding carbon



dioxide emissions and global warming. Due to the dramatic rise in energy costs, consumers and businesses have become more energy-conscious and the government has tried to reduce the United States' dependency on fossil fuels and other non-renewable energy sources. To reduce energy consumption, the U.S. federal government, along with many states, provided incentives for individuals to upgrade and replace existing HVAC and refrigerator systems with newer energy-efficient units. As a result, the demand for services was increasingly related to energy-efficiency purposes prior to the Great Recession. Due to the discretionary nature of these purchases, though, the demand for replacement services dramatically decreased as the U.S. economy entered into a recession. Over the next five years to 2016, this trend is expected to reverse as the economy improves and energy costs rise. At the same time, the demand for upgrade services is also expected to be supported by government incentive programs as the government continues to focus on reducing overall energy consumption within the United States. Energy prices are increasingly becoming an important indicator of industry demand. As energy prices increase, businesses and individuals increasingly install energy-efficient HVAC units in an attempt to reduce operational and living expenses. As energy prices fall, though, the financial benefits associated with energy-efficient HVAC units diminish, hurting the demand for HVAC upgrade and replacement services. This driver is expected to increase over the next year. Energy-efficient HVAC units are often costlier than their less efficient counterparts, and during upgrades these systems frequently replace existing HVAC units that are still properly functioning. As a result, the government created financial incentives through tax credit programs to encourage HVAC system upgrades. As these credits increase in value, a greater incentive is created to replace existing HVAC units with energy-efficient ones. The government encourages consumers and businesses to become more energy efficient due to the United States' desire to reduce its dependency on foreign oil and to reduce green house gases. The driver is expected to remain constant over the next year.

Warranty Requirements: The industry also operates in conjunction with equipment manufacturers and wholesalers for warranty, and much of the installation



work and repairs under warranty are conducted by an arrangement with the equipment supplier. Industry contractors also subcontract their services to larger industry operators, as these firms use contract employees to reduce overhead costs.

Security Alarm Services NAICS 56162

Definition: This industry comprises establishments that sell security systems, such as burglar and fire alarms and locking devices, and offer installation, repair or monitoring services of electronic security alarm systems.

Competition: The industry is characterized by a large number of small players, some of which are sub-contractors to the major players for the provision of installation and maintenance services. About 80.6% of industry enterprises are small businesses. Industry concentration has increased during the last five years, as players have engaged in merger and acquisition activity. IBISWorld analysis (Culbert, 2011) indicates that the current overall level of competition is medium and steady, but competition for available work and contracts rose during the economic recession.

Bundling/Consolidation: Overall, the demand for installation of new security and fire systems slumped. Consolidation activity rose as firms sought to increase their revenue and profit. To weather the low demand, security services companies consolidated and reduced staff. Some larger companies may form strategic partnerships with other specialist maintenance operators in areas such as air-conditioning and energy management. They will form these partnerships to offer a total facilities management solution to businesses and government entities.



Security and Alarm Services



Certification Requirements: The industry generally is regulated and licensed at the state level, with individual building codes and regulations defining the minimum level of protection and operation, particularly for fire. The industry also faces regulation in regard to the promotion and advertising of its products. These often require operators to provide rescission rights to customers. Some local governments have also taken measures to prevent false alarms by revoking the permits of repeat offenders. To help comply with these laws, there are a number of industry associations that provide training, research, standards, and other resources for member firms. These include the Security Industry Association, Central Station Alarm Association, and National Burglar and Fire Alarm Association.



Terms & Conditions: The Department of Homeland Security, under its Support Anti-terrorism by Fostering Effective Technologies Act (SAFETY), provides a system of risk and liability management benefits to certified providers of anti-terrorism products and services. This act also provides third-party liability immunity from claims arising from acts of terrorism within the United States. Protection extends to the firm's subcontractors and to its clients. Under DFARS 237.102, there are several clauses that refer to the training of contractor personnel interacting with detainees and prohibition on interrogation of detainees by contractor personnel on service contracts which should be considered.

In-Depth Porter's 5 Forces

Property Management NAICS 531390

As mentioned in Part II, these forces affect the attractiveness of an industry. Firms are attracted to opportunities that offer the promise of profitability. With that attraction, comes an increase in competition. Barriers to entry reduce the amount of attraction of a firm to an industry because it takes additional money to overcome the barriers. As part of a competition strategy, those firms already in the industry tend to create barriers to preserve their competitive advantage over new entrants.

Threat of new Entry (Barriers to Entry)—

LOW

- The U.S. Property Management industry is labor intensive, as the majority of operations require personal communication.
- Subsequently, there is a low level of capital costs within the industry, as the majority of technology is used to support traditional property management activity.

- The industry also has a low level of regulation, which reduces barriers to entry.

Barriers to Entry checklist

Level

Competition	Medium
Concentration	Low
Life Cycle Stage	Mature
Capital Intensity	Low
Technology Change	Low
Regulation & Policy	Light
Industry Assistance	Low

SOURCE: WWW.IBISWORLD.COM



- However, the industry is subject to regulators from various local, state, national and international jurisdictions. As a result, barriers to entry may vary on a state-by-state basis, depending on local policies.
- These policies and regulations include licensing procedures, prescribed fiduciary responsibilities, and anti-fraud prohibitions.
- In addition, property managers are also indirectly subject to various real estate specific laws, including zoning, ordinances, licensing requirements.

The Power of Suppliers—MEDIUM

- The demand for industry services is mainly driven by the underlying health of the U.S. real estate market, which traditionally fluctuates with economic cycles.
- Within the residential marketplace, changes in economic conditions can dramatically impact the demand for apartments and other rental units.
- Generally, the demand for apartments rises as the economy strengthens.
- At the same time, the demand for apartments can be hindered by economic expansion, as more people are often able to afford to purchase homes.
- However, the rise in homeownership is also influenced by changes in interest rates and the availability of credit.
- Economic activity also influences the creation of new business ventures, with the number of firms increasing during periods of strong economic growth.

The Power of Buyers—MEDIUM

- The demand for industry services is also influenced by outsourcing activity, as participants rely on real estate owners and investors to outsource property management functions. In the five years to 2010, industry participants have benefited from the rise in the outsourcing property management.
- During this period, corporations, government agencies and other real estate owners have increasingly outsourced operations in an attempt to reduce operational costs.
- This trend has also supported the increase in facilities management services, as tenants and other large entities look to market professionals to manage their real estate costs.



Threat of Substitutes—LOW

- The expansion of services is forecast to support consolidation activity over the five years to 2016 as larger firms capitalize on the expertise of smaller niche players. Also, industry participants will consolidate operations to lower costs and improve efficiencies.

Rivalry among Existing Competitors—MEDIUM

- There is a significant level of industry competition due to the similarity of services offered by companies in this market.
- The U.S. Property Management industry has a moderate level of competition, due to low barriers to entry and capital requirements.
- Industry participants generally provide similar services as their competitors, so it is important for participants to differentiate themselves from their competitors.
- To do this, firms try to focus on the quality and range of services offered to clients.
- Service quality is particularly important, as property managers generally act as the liaison between real estate investors and tenants.
- It is important for property managers to properly maintain buildings and keep tenants happy, as high occupancy rates and tenant retention is important for maintaining strong cash flows for real estate investors and owners.

Factors other than the Five Forces

- Generally, the industry is immune to economic cycles because real estate owners usually increase outsourcing activity during down periods to cut costs and maintain profitability. But this was not the case during the most recent economic downturn because the real estate sector was directly responsible for creating the drop in economic activity. Consequently, rising vacancy rates and declining income have hammered those individuals leasing commercial and/or residential properties.



Janitorial Services NAICS 56172

Threat of New Entry (Barriers to Entry)—

LOW

- Barriers to entry in this industry are low and are steady.
- The Janitorial Services industry has few barriers to entry, due to low level of market share concentration and low capital investment requirements.
- New businesses may need to secure a warehouse or operational facility as well as vehicles. Additionally, new entrants will need to purchase supplies such as vacuums, mops, cleaning agents, lawn mowers, as well as specialized equipment if applicable. There is also a low level of training required for industry employees; thus, labor is not expected to be a significant barrier to entry.

Barriers to Entry checklist

Level

Competition	High
Concentration	Low
Life Cycle Stage	Mature
Capital Intensity	Low
Technology Change	Low
Regulation & Policy	Light
Industry Assistance	None

SOURCE: WWW.IBISWORLD.COM

The Power of Suppliers—LOW

- Many of the supplies and equipment for this industry are easily acquired. Even the unique niche of the industry to include the eco-friendly products are a dime-a-dozen.
- Growth in the commercial cleaning segment has occurred in the past five years due to the outsourcing of cleaning services and some investment in new buildings, particularly in the educational, healthcare, prisons, food processing, and pharmaceuticals manufacturing industries.

The Power of Buyers—HIGH

- Most commercial cleaners operate under one-year contracts with clients, with extremely short contract termination periods. This works to the benefit of clients, but is extremely detrimental to janitorial services operators undertaking any medium-term planning.



The Threat of Substitutes—MEDIUM

- External competition is related to persons and firms doing their own cleaning or hiring their own employees to perform these tasks, including on a cash-only basis.
- During the recession, external competition from in-house cleaning services increased as companies sought to decrease their own operating expenses.

Rivalry among Existing Competitors—HIGH

- Commercial cleaning contracts typically have a one-year duration and can be terminated by the operator or the client with 30–90 days of notice. Because of this, price-based competition is intense.
- In addition, a large number of small business operators increase competition for contracts, particularly on a price basis.
- The Janitorial Services industry has a low level of concentration.
- The top four players in the industry accounted for less than 10% of the available market in 2011, and thus, wield little market power.

Factors other than the Five Forces

- The total number of businesses in the United States is positively correlated with demand for janitorial services. The more businesses that are operating, the greater the potential client base for industry operators. Therefore, when the number of U.S. businesses is growing strongly, demand for cleaning services typically rises.. This driver is expected to increase during 2011, which is a potential opportunity for the industry.
- *Value of private non-residential construction:* Private investment in non-residential structures includes new construction and renovations associated with all non-residential buildings, including commercial, industrial, healthcare, educational, and religious. These are the major markets that the industry services. As the number of buildings increases, there is more space for janitors to clean, resulting in higher demand for industry services. Non-residential construction typically lags behind residential construction; therefore, non-residential construction activity has remained weak during 2011. This driver is expected to increase slowly during 2011, which is a potential threat to the industry.
- *Corporate Profits:* This driver refers to corporate profit earned across all industries after inventory valuation and capital consumption adjustments.



As corporate profit rises, businesses expand, and more janitorial services are required to clean additional offices, retail stores, restaurants, and malls. By contrast, lower corporate profit typically results in declining demand for janitorial services, since firms close facilities and may decrease the frequency of cleaning services to reduce their own operational costs. This driver is expected to increase during 2011.

Waste Collection Services NAICS 56211

Threat of New Entry (Barriers to Entry)—MEDIUM

- The Waste Collection Services industry has medium barriers to entry. The industry comprises large national and regional operators, and a host of small local collection companies. As the industry ramps up in scale, larger operators increase their advantage in terms of the economies of scale they can garner, the services they can provide, and their access to capital for further investment and acquisitions. Rising fuel costs and greater environmental regulations are an increasing burden for all industry operators, but smaller players are finding the industry least welcoming.
- A major barrier to new market entrants is the increasing level of vertical integration in the industry. This provides large operators with the means of disposing of the waste they collect at landfill sites they own. Waste collection companies that do not own landfill or other waste disposal facilities must pay tipping fees to third parties, increasing their costs and undermining their competitive position. This can make entry to geographic markets where the disposal facilities are already owned by competitors a difficult prospect.
- Entering the market requires winning a collection contract. Residential and commercial waste collection contracts put out by municipal governments are normally for a fixed term of around one to three years, making it difficult for new entrants to quickly enter a specific local market. Contracts with commercial and industrial customers may be for periods of similar length, and sometimes longer. Collection contracts may include the collection of recyclables. These contracts can include arrangements on the proceeds from the sale of the processed recycled goods. Therefore, contracts can give industry operators who own recycling facilities a competitive advantage.

Barriers to Entry checklist	Level
Competition	High
Concentration	Medium
Life Cycle Stage	Mature
Capital Intensity	High
Technology Change	Medium
Regulation & Policy	Heavy
Industry Assistance	Low

SOURCE: WWW.IBISWORLD.COM



- The top four operators in this industry currently have a market share of about 61.7%, up from about 45.0% a decade ago. Most consolidations over the past decade have been driven by larger firms acquiring smaller competitors, but this trend has begun to change as larger operators have increasingly merged with their larger counterparts.
- This industry displays high capital intensity, with significant investment in collection vehicles, collection containers and transfer stations. The industry also frequently subcontracts out collection contracts to smaller operators, which reduces wage and salary costs.
- The collection of waste has focused on greater automation, thereby increasing capital intensity. The use of collection vehicles that automatically pick up and empty garbage containers and only require one driver for operation have helped reduce pick-up times, fuel, and labor costs.

The Power of Suppliers—MEDIUM

- The most powerful suppliers to the Waste Collection Industry are the fuel suppliers. Over the last five years, the industry has experienced a significant increase in its fuel (purchase) costs, which currently consume 7.5% of industry revenue. There are a number of measures the industry is undertaking to address rising fuel costs. Some companies have introduced a fuel levy or surcharge, which is adjusted according to changing fuel prices. Other companies are looking to move their collection vehicles from diesel to biofuels. Waste Management is investing around \$500 million annually with suppliers who can produce trucks with greater fuel efficiency. Such investments are expected to potentially reduce the revenue share occupied by fuel costs.

The Power of Buyers—MEDIUM

- Factors affecting the price of collection services (i.e., cost drivers) include the following:
 - Collection frequency (labor),
 - The type and volume or weight of the waste collected,
 - Distance to the disposal facility (fuel), and
 - The cost of disposal.
- Prices are often determined locally. Despite competitive pressures, the larger operators have been able to pass on price increases to customers and impose fuel and environmental surcharge levies.



The Threat of Substitutes—LOW

- Although not included in this industry, there is also competition from municipal and regional government authorities.
- Commercial and industrial companies may also choose to handle their own waste collection.

Rivalry among Existing Competitors—MEDIUM

- The Waste Collection Services industry is very competitive, with the main points of competition being price and quality of the service provided.
- Competitors are numerous or are similar in size and power.
- Industry growth is slow.
- Exit barriers are high.
- Rivals are highly committed to the business and have aspirations for the industry leadership.
- Firms are unable to read each other's signals clearly.

Factors other than the Five Forces—Globalization

- Globalization in this industry is low and the trend is steady.
- This industry has a low level of globalization, with U.S. collection companies providing few services abroad, and only one major foreign-owned firm providing collection services within the United States.



Heating and Air Services NAICS 23822a

Threat of new Entry (Barriers to Entry)—MEDIUM

- Strict licensing regulations pose a major barrier to entry into the industry, and the state-by-state variations to qualifications may restrict firms from operating across a wider regional or national market.
- Entry into the industry at the smaller-scale contracting end of the market is to some extent restricted to tradesmen who have completed formal apprenticeship training as refrigeration mechanics, or tradesmen who have entered the occupation via completion of post-trade conversion courses.
- New entrants are likely to encounter some difficulty competing with experienced operators who have an established reputation for quality and price-competitive work within a localized area. Large contractors enjoy economies of scale in contract maintenance and project work which new small-scale entrants will find it difficult to match.
- New entrants need to forge relationships with major equipment suppliers (i.e., manufacturers or wholesalers of HVAC appliances) to establish a stable base from which to grow the business. Large appliance suppliers provide small contractors with valuable market identity and often back supply expertise and advice when contractors are working on large or more complicated projects. The vertical integration of the leading players in the industrial and commercial air conditioning and refrigeration markets limit the scope for competition from outside contractors. All leading equipment suppliers structure product sales to include the installation and long-term maintenance.
- The emergence of large-scale technologically advanced or multi-disciplined players has lifted the barrier to entry for the smaller-scale players on the provision of a wider range of integrated services spanning HVAC, duct cleaning, and refrigeration services.

Barriers to Entry checklist	Level
Competition	High
Concentration	Low
Life Cycle Stage	Decline
Capital Intensity	Low
Technology Change	High
Regulation & Policy	Heavy
Industry Assistance	Low

SOURCE: WWW.IBISWORLD.COM



The Power of Suppliers—LOW

- Much of this industry is based on labor with some requirement for equipment. There are many skilled laborers available to work in this industry. The cost of equipment capital is low and much of the equipment is commercial based. Thus, the only suppliers with an advantage are those that offer the newer, cutting edge technology including changes in the type of equipment installed and the technological basis for equipment operation (e.g., automated climate control systems).

The Power of Buyers—MEDIUM

- Buyers have many choices when it comes to hiring a basic heating and air service company to include ones that provide eco-friendly equipment. However, due to the cost of the new equipment, only the larger companies have had the required capital to invest in the high tech side of the industry, which, in turn, diminishes the buyer's power.

Threat of Substitutes—LOW

- External competition has increased, as several different industries offer heating, ventilation and air conditioning-related services, including manufacturers, electricians, general contractors, and retailers. These external competitors have consistently expanded HVAC and refrigeration services over the past decade to increase revenue and diversify operations.
- The emerging trend towards building automation in large-scale commercial buildings (i.e., using computer-controlled equipment to manage such services as heating, lifts, security, lighting, ventilation, and room pressurization) has led to a blurring of activities in this area. There previously was a clear line between companies that provided, for example, elevator installation and servicing, and other operators who distinctly handled such functions as security systems installation, or fire alarms and sprinklers. Such demarcation has fallen away. The trend is currently for large operators to design and provide entire building automation packages. The impact of such a trend has been for contractors to compete against non-traditional rivals from other sectors.

Rivalry among Existing Competitors—HIGH

- Competition within this sector is steadily increasing. Industry operators compete with each other, mainly in localized markets, as most firms are small operators.



Factors other than the Five Forces

- The level of regulations is heavy and the trend is increasing in the heating and air service industry.
- There is a heavy government regulation requirement. Participants are required to obtain state-based licenses, while industry-based apprenticeship training is mandatory to obtain various qualifications.
- The environmental regulations are rapidly increasing for the industry. Contractors are subject to numerous federal, state, and local environmental laws and regulations, including those governing vehicle emissions and the use and handling of refrigerants. The EPA and state and local governmental agencies administer these regulations.
- Industry associations also certify competency across a range of specialized fields. Compliance with industry regulations, construction standards, and licensing requirements adds to the cost of operating in this industry, but also prevents the entry to the industry of unqualified competitors.

Security Alarm Services NAICS 56162

Threat of new Entry (Barriers to Entry)—LOW

- The Security Alarm Services industry generally has a low level of concentration with the top four players expected to account for less than 35% of the available market share in 2011. This indicates that there are few barriers to entry based around major player dominance. However, large players are likely to get more of the high-value clients based on an established reputation or the ability to provide services on a national basis.
- Capital intensity on these projects can be higher, but many of these costs are passed onto the client.

Barriers to Entry checklist	Level
Competition	Medium
Concentration	Low
Life Cycle Stage	Mature
Capital Intensity	Low
Technology Change	Medium
Regulation & Policy	Medium
Industry Assistance	Low

SOURCE: WWW.IBISWORLD.COM



The Power of Suppliers—LOW

- Much of this industry is based on labor with some requirement for equipment. There are many skilled laborers available to work in this industry. The cost of equipment capital is low and much of the equipment is commercial based. Due to blue collar labor being covered by the SCA, it cannot be assumed that consolidating will result in an increase of economies of scale. Thus, the only suppliers with an advantage are those that offer the newer, cutting-edge technology including the new biometric areas that involve fingerprint, iris, and facial recognition access and control systems.

The Power of Buyers—MEDIUM/LOW

- Consumers have medium to low buying power when it comes to the security alarm industry. Although, there are many companies that provide security alarms and services thus offering a consumer competitive price options. However, once a consumer chooses a company to install their product, they must stay with that company to provide the service as well or else start the process from ground zero.

Threat of Substitutes—LOW

- The primary source of external competition for this industry is the Security Services industry (NAICS 56161). The industry provides a variety of related services, including security guards, cash transport, and bodyguards. Some companies use alarm systems to replace security guards because of long-term cost advantages. For example, companies that do not have a security team do not pay salaries for guards. Security guards and alarm systems are increasingly being used in conjunction with one another so that clients can reduce costs while maintaining a physical security presence.

Rivalry among Existing Competitors—MEDIUM

- In terms of internal industry competition, it is largely based on price, particularly for the installation of integrated security systems in new buildings and constructions. Companies charge for installation and recurring subscription fees. Operators might offer a low introductory rate or installation fee but require users to pay higher subscription fees. Similarly, high installation fees might result in a lower monthly subscription.
- Competition is also based on technology and effectiveness, service quality and reputation. Offering the latest technology can provide a competitive



advantage for industry operators. Closed Circuit Television biometric technology, sensors, and monitored security systems are supplementing electronic alarms. Offering high-tech solutions to clients often opens doors to higher-value services.

Factors other than the Five Forces

- Government changes to fire and security codes have also boosted industry demand, increasing premiums on insurance policies and fueling consumers' fears of a rising crime rate.

The Direction Facilities Management is Headed

A Science Foundation Project, titled *Educating Technicians for Building Automation and Sustainability*, outlines the current state of industry standards in the Facilities Management industry. The number one challenge as stated in this article is, “formal job training for facility managers is often indirect, as few facility management educational degree and training programs exist. Combined with a lack of well established industry standards for facility management, operations, and maintenance practices and processes, many entering the industry find themselves unprepared for the challenges ahead” (Ehrlich et al., 2010, p. 8). Currently, the development of training programs including curriculum, laboratories, testing standards, and proficiencies is required. If this field is to receive the needed respect and attention, professional certifications need to become an expectation. To achieve the call to action, the following future research is recommended:



Useful Tools and Links

- Green Seal—Green Seal standards provide criteria and guidelines for manufacturers, service providers, and companies to work toward sustainability and Green Seal certification. It has 33 issued standards that cover over 338 product and service categories. Their search engine helps consumers find products, services, as well as the regulations that govern the industry. This tool includes industries that use cleaning products and services, lighting, painting, and paper products, to name a few:
<http://www.greenseal.org>



- Defense Standardization Program (DSP) Documents include DoD or federal specifications or standards, military specifications (MILPRF-xxx, MIL-DTL-xxx), military standards, military handbooks, commercial item descriptions (CIDs), qualified product lists (QPLs), qualified manufacturers lists (QMLs), guide specifications, Joint Service Specification Guides, data item descriptions (DIDs), and other documents used in the DSP, such as international standardization agreements and DoD notices of adoption of non-Government standards: <http://dsp.dla.mil>
- IHS—Access and manage standards, regulations, and related publications from professional societies, trade associations, international and national standardization and regulatory bodies and government and military sources: <http://www.ihs.com/products/industry-standards/>
- International Facilities Management Association (IFMA)—Assists facility managers in developing strategies to manage human, facility, and real estate resources through research efforts, education programs, and credentialing: <http://www.ifma.org/resources>
 - Included in its resources is a Facilities Management Online Buyer's Guide: <http://onlinefmguid.com/index.php>



- Clean Link Buyer's Guide—An easy way to find manufacturer addresses and phone numbers as well as manufacturers that produce a specific product type: <http://www.cleanlink.com/buyersguide/>
- American National Standards Institute (ANSI)—The Institute oversees the creation, promulgation, and use of thousands of norms and guidelines that directly impact businesses in nearly every sector. ANSI's collection of internet resources gathers together the many "powered by ANSI" web resources along with links to other organizations and information sources with missions and activities of interest to the standardization and conformity assessment community:
http://www.ansi.org/internet_resources/overview/overview.aspx?menuid=12



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Appendix F: Air Force Enterprise Sourcing Group MR Example

Step 3.0 – Market Research

Findings Summary

Elevator Maintenance Sourcing Spiral



U.S. Air Force

Enterprise Sourcing Group

Civil Engineering Commodity Council

Version 0.23

30 September 2011



ACQUISITION RESEARCH PROGRAM
GRADUATE SCHOOL OF BUSINESS & PUBLIC POLICY
NAVAL POSTGRADUATE SCHOOL

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Executive Summary

Purpose and Scope

The purpose of this document is to provide AF Civil Engineering Commodity Council (CECC) members, stakeholders, and Major Command (MAJCOM) strategic sourcing teams with an understanding of the current elevator maintenance, repair, and inspection market and provide insights that may shape the acquisition of these services at an enterprise level. Building upon the findings from the Current Strategy Review, this document is intended to provide further directional guidance to the Elevator Maintenance Sourcing Spiral Team (Team) as it seeks to shape an appropriate AF-wide acquisition solution(s).

The scope of the Team's market research included commercial providers of preventative maintenance, repair, and inspection of vertical lift/transportation within the Continental U.S. (CONUS) as well as Alaska and Hawaii. It also reviewed acquisition and management practices of other Federal Agencies and DoD Components where available. For more information about the scope of this Spiral in general, please reference the Elevator Maintenance Spiral Scope Document.

Methodology

Guided by the AF Seven-Step Strategic Sourcing Methodology, the Spiral Team utilized several qualitative and quantitative research techniques to collect and analyze information pertaining to the market in which the AF currently acquires elevator maintenance, repair, and inspection services. Step 3 of the seven-step process, Market Research, prescribes general activities necessary to achieve a detailed understanding of how these services are acquired, provided, utilized, or managed within a given sourcing area. These activities primarily included:

- Evaluation of the general marketplace in terms of capacity, stability, maturity, and standardization.
- Benchmarking of other public sector as well as industry approaches and best practices.



- Identification of current market drivers, trends, innovations, and challenges.
- Determination of the ability of the market to meet known AF requirements.

It should be noted that the AF 7-Step Strategic Sourcing Methodology prescribes that market research be conducted prior to the full definition of the requirement. This differs from traditional, tactical contracting whereas market research is conducted following definition of the requirement. The sequencing of activities in strategic sourcing may necessitate additional market research activity following full elaboration of AF enterprise requirements.

Many sources were utilized to obtain the information described above. These included Internet reports and databases, discussions and visits with vendors, industry conferences, trade organizations and publications, and a Request For Information (RFI). The Team was unable to conduct secondary research on several vendors in the industry due to the stringent AF network security and firewall settings. These settings resulted in 'Access Denied' messages after attempts to open web pages. Details on sources used and the information yielded is described later in this document.

Key Findings and Recommendations

Evaluation of the current vertical transportation market yielded the following primary conclusions:

- The services desired by the AF are commercially available and vendors are willing to engage with the Government. Any potential future contracting efforts may use FAR Part 12 for Commercial Acquisitions.
- There is a high degree of competition in this industry and excess capacity in general to meet perceived AF requirements.
- Vendors in this industry offer several different service tiers, some of which may have the ability to offer cost efficiencies to the AF.
- The ability to strategically source elevator services has been proven successful within both the public and private sectors.
- Average prices paid by commercial and Federal customers appear to be up to 18-20% lower than historical contract pricing paid by the AF. With



the large elevator inventory and high profit margins enjoyed by contractors, the AF should expect to negotiate improved pricing on strategic contracts.

- The current market and timing appear suitable for the AF to enter into new enterprise contracts for elevator services.
- Small business comprises a majority of the industry as well as AF spend at the individual base level, however few appear capable of servicing bases across a region or the entire CONUS.
- Given the known AF vertical transportation inventory and current economic conditions, the AF wields sufficient buying power within the vendor base to pursue a strategic sourcing solution. Although the AF only controls a small percentage of the total number of elevators in the U.S., few customers have as large of a portfolio as the AF.

Next Steps

Based on the findings described in this document, the Team will proceed into Step 4 - Requirements Definition with greater understanding of the elevator service market and the context of AF customer needs and leverage within that market. Market research findings will be continually updated as new information is obtained. Additionally, the Team will seek stakeholder feedback on our findings as the spiral progresses through the AF Strategic Sourcing Methodology

Industry Overview

Elevator maintenance, repair, and inspection services are part of what the commercial marketplace has dubbed the “Vertical Transportation” industry. This is a broad-based title that encompasses building conveyance equipment that includes not only traditional elevators, but also escalators, moving walks, dumbwaiters, wheelchair/stair lifts, and related equipment. Vendors in this industry service more than



900,000 elevators and 50,000 escalators operating in the U.S.¹ These vendors tend to be specialized in this industry, and may provide services ranging from the manufacturing of the equipment to its independent inspection.

Like many industries, vertical lift vendors have also been impacted by general economic conditions, which have seen a significant downturn in the last several years. The slowdown in commercial building has limited the number of new elevator installations with many new building projects or major capital investments curtailed or delayed. This has generated additional demand for maintenance and repair of existing equipment and influenced a shift in vendor focus in order to stabilize their business.

Industry Trends

In market research and vendor discussions, the Team noted a wide variation of trends associated with this industry. In terms of general economic trends, the industry has seen a drop in sales of new equipment due to the decline in the commercial real-estate and manufacturing sectors. With fewer new unit sales (revenue opportunities), there is increased emphasis on the steady revenue stream provided by maintenance and inspection services. This has created increased competition not only to “capture” maintenance on OEM equipment but to “steal” maintenance on other brands. Building owners, seeking to reduce their management burden and lower costs, have moved to long term inspection and maintenance agreements instead of piece-meal procurement of these services on an “as-needed” basis.

Changes in technology have not had a significant effect on the industry, but are reducing the cost of maintenance for both the service providers and building owners. The progressive integration of digital controls and sensors for diagnostics, dispatch and repairs is an emerging technology trend advocated primarily by the large integrated elevator manufacturers. The technology is a means of assisting the customer/vendor in

¹ Elevator World 2010 Vertical Transportation Industry Profile



diagnosing problems that can lead to reduced costs to the service provider and improved availability for the customer. Smaller footprints for new elevator equipment, such as machine room-less (MRL) components, is another trend. This often reduces installation cost of new equipment, and is intended to facilitate easier and more inexpensive maintenance. Overall, more technology in the elevators appears to be driving increased reliance on outsourced maintenance (vs. in-house expertise) as the innovation makes it more difficult to keep up with training and service “know-how”.

The outlook for this industry in the near future appears to be one of continued stabilization. New equipment installations include a long term repair and maintenance component which will flatten suppliers’ revenue fluctuations. Some changes in market share are possible as the larger service providers, whom have a greater capacity to provide a broad range of facility management services, capture a bigger portion of the total market.

Size of the Industry

According to the subscription research service IBISWorld, the Elevator, Millwright, and Machine Rigging Contractors industry generates approximately \$15.5B in annual revenue². This figure includes installation of elevator equipment. The size of this industry in terms of revenue is relatively small in comparison to other building-related trades such as Commercial Construction (\$134B)³, Roofing (\$41B)⁴, or Painting (\$26B)⁵.

According to IBISWorld, there are roughly 3,500 registered businesses in the industry employing approximately 100,000 personnel. Revenue and employment are

² IBISWorld Industry Report 23595 – Elevator, Millwright, and Machine Rigging Contractors in the U.S.

³ IBISWorld Industry Report 23332a - Commercial Building Construction in the U.S.

⁴ IBISWorld Industry Report 23561- Roofing Contractors in the U.S.

⁵ IBISWorld Industry Report 23521 - Paint Contractors in the U.S.



down from 2009 levels by just under 9% and 5%, respectively. At a five-year glance, however, the industry has remained relatively flat.

Maturity

A review of various secondary research sources indicated that the industry is mature based upon several factors including its stage in the life cycle; stability of the supply base; existence of thriving trade organizations; and degree of established processes, standards, and ongoing education. Overall industry maturity is typically an important indicator of relative supply risk, in addition to cost stability and proven product/service quality.

Lifecycle Phase. According to the 2010 Vertical Transportation Industry Profile, the vertical transportation industry has been manufacturing and maintaining its equipment for over 150 years. Products and services, as well as their delivery processes, are fully developed and continuously improving. Other than recent years, the industry in general has experienced low revenue volatility in general. Merger and acquisition activity has also been relatively stabilized, however, in recent years, larger OEMs are taking advantage of softer sales by smaller firms and making gradual acquisitions to enter or expand into desired markets (see Competition for additional information.)

Supply Base Stability. Given the age of some the AF elevator equipment and concern about potential obsolescence, the Team explored the availability of OEM or aftermarket/remanufactured spare parts used in repair. This was an important facet, as companies with either a limited supply chain or significant control of the component market would likely reduce the viable acquisition options for any future AF contract. The availability of spare parts appears to be driven by several factors – reverse engineering, non-proprietary components, and third party parts distributors.

Of the three (Otis, Schindler and Thyssenkrupp) large elevator OEMs interviewed, all reported that they maintain minimum stock levels of recurring repair parts. These OEMs also reported that they have the capability to reverse engineer and



fabricate competitor parts in support of service contracts. This may be necessary due to obsolescence or proprietary nature of parts. Additionally, most service providers stated that up to half of their service portfolio contained units produced by competitors, indicating their ability to obtain necessary parts regardless of OEM. Many suppliers indicated that they buy from and sell to other OEMs and service providers. One particular supplier noted, however, that they charge a standard mark-up to install competitors parts of up to 20%. Many of the suppliers appear capable of handling the abundance of antiquated elevators throughout the nation – many older than what the AF currently operates. In the case of full maintenance contracts (see Industry Products and Services), the risk on the availability of OEM or aftermarket/remanufactured parts would be with the vendor.

Lastly, there are dozens of companies that produce and/or distribute aftermarket parts. Some specialize in producing specific non-proprietary parts while other companies can provide a wide variety. More variety means greater selection and range of prices for the AF. Two of the larger and most well-known companies are Adams Elevator Equipment Company, which claims same-day shipping, and Unitec Parts Company, which claimed stockage of 100,000 parts, including some dating back to the late 1800's. Since the AF has a wide range of both new and old elevators in service, they have the ability to mitigate obsolescence risks associated with OEM and aftermarket parts. In addition, having multiple suppliers being able to provide a variety of parts quickly allows for less equipment down-time. Overall, due to the factors described above, the current availability of spare parts appears sufficiently stable to supply AF requirements.

Industry / Trade Associations. In addition to indicating possible market segments, the existence of national or global industry organizations can also be indicative of overall market maturity. These types of organizations are important in providing a forum for:

- exchange of best practices,
- resolution of technical issues,



- providing continuing education,
- generating awareness of product or service innovations, and
- developing industry-accepted practices and standards, including professional qualifications and certifications.

Vendor membership in these kinds of organizations also tend to display commitment to accepted standards, professional ethics, and continuous improvement. Numerous vertical transportation-related organizations were catalogued, and a representative listing of organizations particularly useful in the Team's research are noted below.

Organization Name	Brief Description
National Association of Elevator Contractors (NAEC)	Supports the education, best practices, and communication amongst Commercial, Residential and Freight Elevator contractors, Accessibility contractors, escalator contractors, manufacturers, Suppliers, consultants, inspectors and institution representatives. Primarily represents independent service providers.
National Elevator Industry Inc. (NEII)	Promotes safety, endorses adoption of model codes by local government agencies; gathers and distributes data relating to industry issues, statistics and matters of common interest; and promotes activities designed to increase understanding of issues pertaining to safe installation, service, repair and operation. Primarily represents equipment manufacturers.
National Association of Elevator Safety Authorities (NAESA) International	Represents Inspectors, consultants, contractors, and manufacturers. Dedicated to promoting public safety through education, workshops, and professional certification. NAESA is accredited by ASME for certification of Elevator Safety Code Inspectors.
ElevatorWorld	Centralized internet resource site for companies in the vertical transportation industry, as well as sponsor of various industry collaboration and education events.
International Association of Elevator Consultants (IAEC)	Provides forum for vertical transportation companies to exchange ideas, reports, innovations and regulations. Also known promoting inspection standards and certification.

Figure 1: Key Industry Organizations

Additionally, other organizations not specific to vertical transportation were identified due to their significant influence upon the manner in which elevators operate and maintenance services are provided. The primary organizations of note in this industry appear to be the American Society of Mechanical Engineers (ASME) and National Fire Protection Association (NFPA). ASME is a 100+ year old, not-for-profit



organization that promotes and supports all engineering disciplines. It includes more than 120,000 members in over 150 countries and has published approximately 600 technical standards improving the safety and efficiency of boilers, elevators, cranes, nuclear energy, pipelines, and many other areas. ASME has documented consensus codes and recommended standards in use across the industry for many types of vertical transportation equipment. Also an international non-profit, NFPA is a long-standing organization that advocates fire safety and prevention amongst its 70,000 members around the world. They have published more than 300 consensus codes and standards intended to minimize the possibility and effects of fire and other risks, including the NFPA Building Construction and Safety Code (NFPA 5000) which guides vertical transportation construction and operation during emergency situations.

Established Processes, Standards, & Ongoing Education. Part of the vertical transportation industry's maturity is derived from its adherence to and continual refinement of the accepted standards and required codes alluded to previously. Establishment of such standards, and more importantly their high degree of adoption, typically illustrates strong collaboration within an industry. Generated by the strong cooperation between the industry and related engineering organizations, vertical transportation standards are built around proven best practices that provide for longevity of equipment, service delivery quality, and both technician and passenger safety. Mature industries also recognize the need to revise established processes/standards as technologies, operating environments, and other circumstances evolve. Such is the case with this industry, as it is currently working to fully implement a performance-based code (ASME A17.7 - Performance Based Safety Code for Elevators and Escalators), which has already been widely adopted in North America. According to the NEII, the new code will allow vendors to keep up with changing technology while maintaining or exceeding the safety requirements under the existing code. As the name implies, vendors will have more flexibility in determining how the requirements are met.

In addition to standard operating practices, the industry has also established strong training and education for those coming into and already part of the workforce. Prior to entering the maintenance workforce, elevator technicians are required to



complete an over four year apprentice program that is run in partnership between the National Union of Elevator Constructors (NUEC) and the industry. This joint venture is known as the National Elevator Industry Education Program (NEIEP). Once in the workforce, elevator technicians may further professionalize by becoming a Certified Elevator Technician (CET) and/or Certified Accessibility Technician (CAT). The CET signifies strong expertise in elevator and escalator specific technical theory, components, and competencies, as well as compliance with a variety of industry codes. The CAT covers many of these same aspects but focuses specifically upon lift equipment for the disabled and associated codes/regulations (such as the American Disabilities Act, or ADA). Finally, several industry associations are accredited to certify individuals as Qualified Elevator Inspectors (QEI). The QEI program is intended to certify strong working knowledge of the applicable codes and their inspection and testing procedures. The program also promotes an ethics component whereby it requires avoiding conflicts of interest such as performing or witnessing inspections and/or tests on equipment in which an inspector may have financial interest.

Industry Segmentation

One common activity in conducting market research is to determine the standard industry classification in which these vendors operate. The AF uses the North American Industry Classification System (NAICS) codes published by the U.S. Census Bureau. Research indicated that there is no NAICS specifically for vertical lift products or services. Previous spend analysis conducted during the Current Strategy Review phase produced a variety of codes. Although the official description of the NAICS does not specifically include mention of vertical transportation/lift, the most commonly used by the AF was 811310 (Commercial and Industrial Machinery and Equipment), with a small business size standard of \$7M. After further review, this does not seem to be the most applicable code to use for vertical lift services. NAICS 811310 covers establishments primarily engaged in the repair and maintenance of commercial and industrial machinery and equipment such as automotives, aircraft, ships, electric motors, home and garden equipment, etc. NAICS 238290 (Other Building Equipment Contractors) appears more applicable as it is designed to cover establishments



primarily engaged in installing or servicing building equipment and specifically mentions elevator and escalator installation. A query of the Central Contractor Registry (CCR) showed an additional thousand vendors listed in NAICS 238290, which would likely open our research to a wider base of vendors and therefore was used in the subsequent Request For Information (RFI) discussed later in this document. This NAICS has a \$14M small business size standard.

According to a 2010 Elevator World Vertical Transportation Industry Profile produced by ElevatorWorld, there are four distinct industry segments based upon the type of services most commonly provided in the market:

- New Installations: Manufacturing and fitting of new, complete equipment in buildings. This segment is dominated by large businesses.
- Modernization: Major upgrades to particular existing components or assemblies, either for code, accessibility, or cosmetic purposes.
- Maintenance: Preventative adjustment or corrective repair to existing equipment. This segment is equally served by both large Original Equipment Manufacturers (OEMs) as well as small businesses.
- Supply of Components: Manufacture or distribution of various parts and equipment, and independent elevator consulting. Companies in this segment specialize in the warehousing, fabrication, and/or distribution of digital or mechanical components used by firms in the other three market segments.

Vendors may participate in one or more of these segments, with the largest companies covering all segments. In line with the defined scope of this spiral, this document will focus on the relevant aspects of the Maintenance market, which comprises the largest component of the vertical transportation industry. A segmentation by product (equipment) type published by IBISWorld⁶ shows traditional elevator equipment comprising the largest portion of annual industry revenue at 45% (\$6.9B). Of this portion, nearly half (\$3.4B) is generated from maintenance and repair activity.

⁶ IBISWorld Industry Report 23595 – Elevator, Millwright, and Machine Rigging Contractors in the U.S.



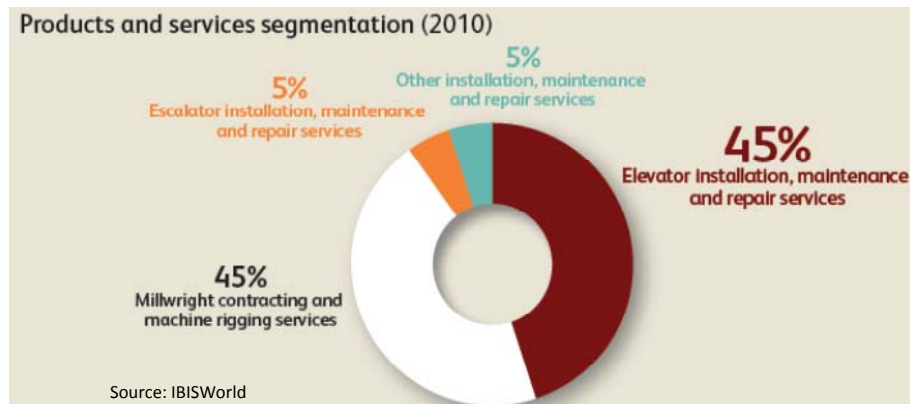


Figure 2: Vertical Transportation Industry Segmentation

Escalator installation, maintenance, and repair accounts for about 5% (\$775M) of annual industry revenue, and equipment such as dumbwaiters, dock levelers, and other lift equipment represents an additional 5%.

Competition

Secondary research sources generally portray the vertical transportation industry as a highly competitive one. As mentioned previously, the industry supports approximately 3,500 enterprises, however there are very few dominant players. Secondary research from Thomson and FactSetMergers databases appears to indicate that the industry is going through gradual consolidation. From 2008 to present, major industry players such as the “Big 4” (Otis, Schinder, ThyssenKrupp, and Kone) acquired nearly 30 smaller competitors. According to ElevatorWorld, Otis Elevator alone has acquired 12 companies through August 2011. Such buyouts often occur in order for the acquirer to ‘buy into’ a particular customer base, specialty niche (further vertical integration) or geographical area. These activities typically strengthen the supplier’s market position, but may eventually erode buyer power (see Five Forces Analysis). Still, the market research service IBISWorld reports that the four largest players account for less than 10% of annual industry revenue, and no particular business controls more than 3.5% individually. These figures would suggest a sufficient level of competition to support strategic sourcing.



The fragmented structure of this industry is also evident in the annual U.S. Census Bureau survey of County Business Patterns, which indicates that around two-thirds of establishments employ less than ten persons, and nearly half employ less than five (approximately 47%). This information supports other findings suggesting a strong level of small business participation in the industry. One of those included an analysis of the FY08-10 AF contract spend, which indicated that the AF has contracted with 89 unique suppliers for elevator maintenance at CONUS bases – statistically, a different supplier at each base. Of the total three year AF spend, 62% was with small enterprises as shown on the following page. Results collected from a Request For Information (RFI) indicated that of the 51 qualified responses, 30 were small businesses, with nearly half of those employing five or less full time personnel.



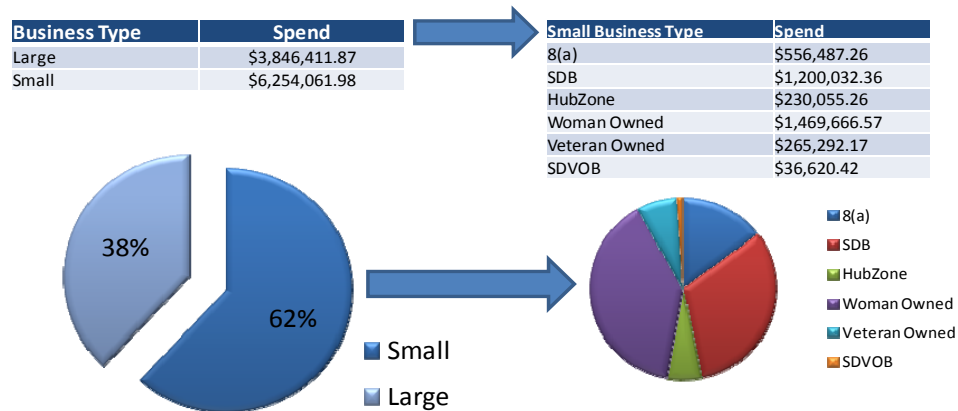


Figure 3: FY08-10 AF Contract Spend by Business Size

The business model of providing vertical transportation inspection is different from that of maintenance and repair. The ASME code calls out particular inspections and tests at various set intervals, and these must usually be conducted by a certified person. Because these services are provided at relatively known intervals and do not require a dedicated on-site person, it would appear feasible that a few vendors or single vendor could provide these services to the AF enterprise. Assuming capacity needs could be met, this work may be suitable for a small business to perform.

Capabilities

Equipment Service

While it may be simpler for vendors to specialize in a single equipment type, it limits their customer base and ability to win larger facility contracts. Interviews with vendors and RFI results show that most vendors are trained and capable of servicing multiple types of vertical transportation equipment. This obviates the need for the AF to contract separately for maintenance services on each equipment type. Additionally, equipment OEMs also stated they will service equipment from other OEMs. Several suppliers indicated that up to 50% of their service portfolio consists of competitor equipment. All of the large OEMs have demonstrated their capability to reverse engineer and fabricate obsolete or proprietary components, and a few smaller firms



have also carved out a niche market by producing and selling “maintenance flexible” components to small independent businesses. Respondents to the RFI indicated that their contract terms have provisions for the use of such components. This is important to the AF, as it reduces the level of supply risk and generates more cost competition.

Geographic Reach

According to IBISWorld (Ripley, 2011), the most dominant region of the country in terms of business establishments is the Southeast, accounting for nearly a fourth of industry revenue. This also correlates with the current concentration of AF facilities. There was a low percentage of establishments in several states which have AF facilities, particularly in the northern tier and Hawaii. Of concern to the Team in prior research was the geographic reach of vendors in the industry. Based on the IBISWorld information, most of the vendor base appears to consist of small scale independents that serve a narrow geographical range. RFI results supported this assertion. Most respondents indicated that their current and potential service reach could extend to three or less States. Several States showed shallow vendor coverage with three or less established vendors.

IBISWorld also reported that the largest concentration of contractors were in the regions with the higher urban population and manufacturing activity. To verify this and identify to what extent contractors may be positioned to service AF facilities, the Team queried the Central Contractor Registry (CCR). For NAICS 238290, contractor business location was compared against the surrounding metropolitan area around each CONUS AF installation. It is acknowledged that while contractors may have limited business locations registered today, they are not precluded from opening new service locations in the future. This information, however, provided a current snapshot of the relative operating reach of contractors likely to do business with the AF.

The Figure below shows the number of registered contractors located near CONUS AF Bases. The data reveals that contractors are most numerous near AF bases in the larger metro areas or where multiple bases are located. Where this is the



case, it would appear that the AF has the greatest opportunity to consolidate and strategically source requirements.

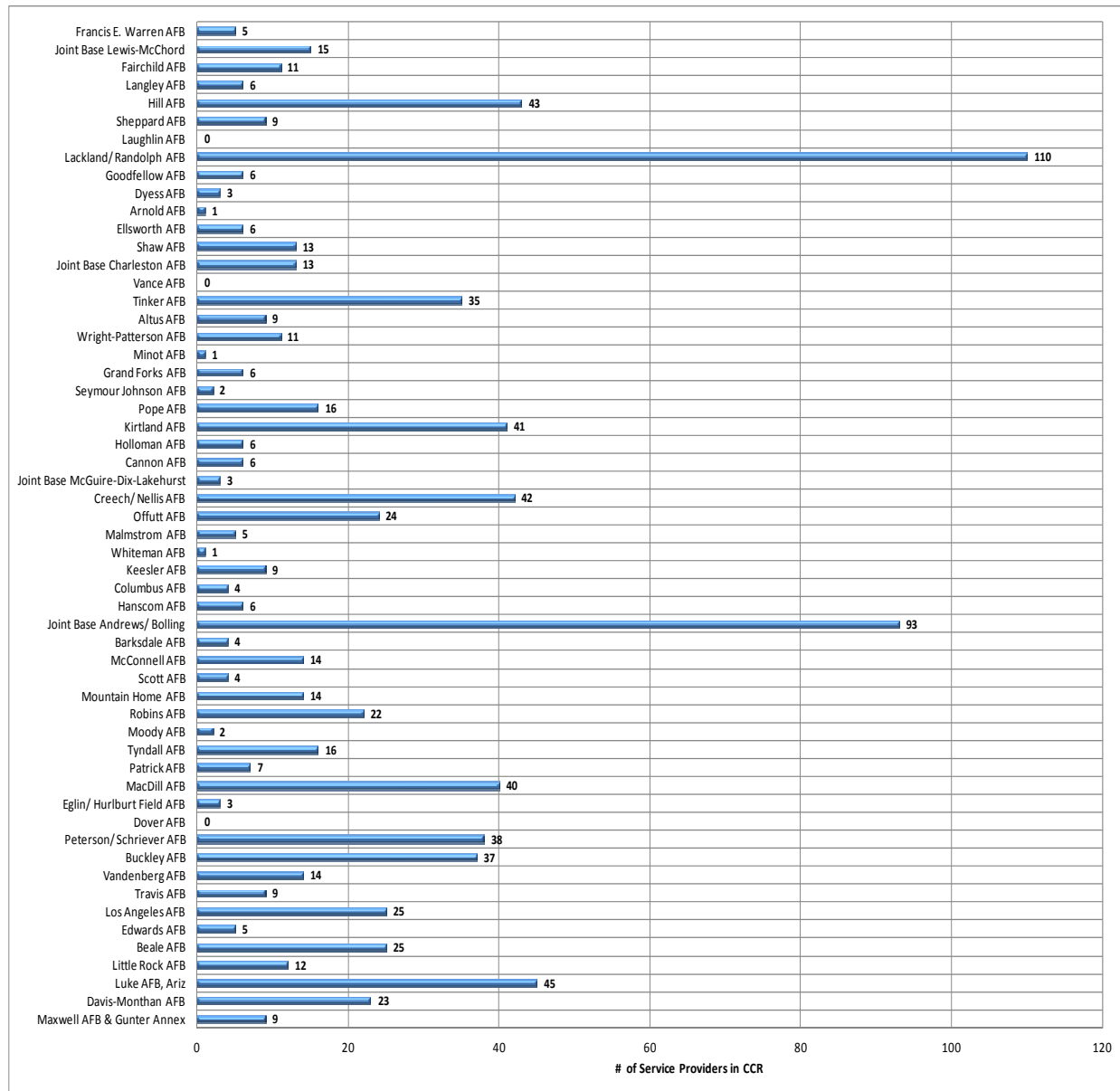


Figure 4: Service Providers Located Near CONUS AF Bases

While this data appeared to show sufficient supplier placement to service each of the CONUS AF bases, it does not provide an indication of supplier ability to service multiple bases within a wider geographic area or nationwide, which is a key factor in assessing



the viability of an enterprise strategic sourcing solution. Of particular interest was the capability of small businesses to service AF bases. This was ascertained through an RFI, the results of which are summarized below:

- Of the 51 valid responses, more than half (30) identified themselves as Small Businesses.
- 90% of Small Businesses operated in 4 or less different States, and 23 in 3 or less different States.
- One respondent stated they could reach 41 of 50 States, however, they were a General Contractor (GC) and not an elevator service company specifically. Other market research indicated that GCs typically do not perform this work, but instead subcontract to local firms.
- There are 4 States where only 2 of the 30 Small Businesses have operated.
- When asked, 90% of Small Businesses could only expand to operate in 9 or less States in total:
- 18 could only operate in 3 or less States
- 9 more could only operate in 4-9 States, and 7 of them reported that their largest prime contract held was \$1M.

This information suggests that the viability of small business in fulfilling an enterprise requirement is very limited. While it is premature to suggest which acquisition option(s) will be considered for this spiral, the Team posed some initial potential scenarios to help identify how small businesses could participate.

Scenario 1: Award a nationwide multiple award IDIQ contract to Small Businesses limiting competition to those that stated they could operate in 3 or more States.

Results: Only 13 Small Businesses qualify to compete, with 85% (11) having performed in 5 or less States. If an IDIQ contract were awarded to all 13 companies:

There would be 26 States where only 1 Small Business could compete



There would be 15 States where only 2 Small Businesses could compete

No State would have more than 3 companies competing at any one time

A central contract is limited to the awarded contract holders. To get a contract award for a central requirement, a business would have to show geographic reach to compete. Having performed in a maximum of only 4 States, a nationwide requirement significantly raises performance risk. This scenario is likely to exclude small business.

Scenario 2: Award a nationwide multiple award IDIQ contract to Small Businesses limiting competition to businesses that stated they could operate in 5 or more States.

Results: Only 7 Small Businesses qualify to compete. If an IDIQ contract were awarded to all 7 companies:

- 66% of the bases would not have effective competition. There would be 5 States where no Small Business could perform; and 28 States where only 1 Small Business could perform.
- For the remaining 12 States, only 2 Small Businesses could compete in each State.

Based on the data obtained through the RFI, it does not appear realistic to expect effective competition throughout the U.S. if the elevator maintenance requirement is set aside for small business and a nationwide contract vehicle was pursued. Small businesses may be able to compete on a limited basis for a nationwide contract but capability is still questioned. Two companies (not including the one general contractor) stated they could operate in 23 and 43 States, however their largest prime contracts were valued between \$500K and \$1M. This calls into question their capability to handle a large geographic scale multi-million dollar contract.

Scenario 3: Another potential strategic sourcing solution for elevator maintenance is to use existing GSA multiple award schedules. The geographic reach of the GSA schedule holders was reviewed and suggested the following:



Results: Most small businesses do not appear to have sufficient reach to service multiple AFBs.

- 16 companies currently have a schedule on GSA; 9 are small businesses
- Geographic reach for GSA holders was assessed by AFB location; not by State; therefore there are 61 locations for consideration
- The 4 largest companies in the industry schedule holders (Thyssenkrupp, Schindler, OTIS and Kone) and are capable of supporting all locations
- A breakdown of the number of locations Small Businesses showed:
 - 8 can support 3 or less locations
 - 1 can support 18 locations
 - 37 locations with no Small Business capability
 - 21 locations where only 1 Small Business could provide support
 - 2 locations where 3 Small Businesses could provide support
 - 1 location where 4 Small Businesses could provide support

On the surface, these statistics make it appear as if Small Business cannot support a strategic sourcing option of using GSA schedules. However, a policy mandate of using GSA schedules would allow competition among all schedule holders. This would give Small Business a potential opportunity in 24 locations. In addition, GSA allows businesses to submit proposals to be included on a schedule, so additional businesses could potentially be added at any time (on ramp), increasing the future possibility for further Small Business participation.

Capacity

A key determinant in a market's ability to meet a requirement is its capacity. Capacity generally refers to the extent that a company's production resources are fully utilized. For large volume product buys, the current or projected production capacity of a manufacturer indicates their ability to meet customer requirements. An industry or



supplier that is already at full capacity, and has no room for expansion, would typically not be a strong candidate for strategic sourcing.

On an aggregate basis, the vertical transportation industry is already demonstrating it has sufficient capacity to meet AF needs at an individual base level, as our requirements are spread amongst 89 service providers. An enterprise-wide strategic sourcing solution for elevator maintenance would not add new volume to the market, rather there would merely be a shift in the vendors utilized. Further indication of adequate capacity is provided in ElevatorWorld's 2010 Vertical Transportation Industry Profile: "Estimates indicate that maintenance is the primary business of more than 1,500 companies, the extent can be seen in the telephone directories where these businesses are listed." Many of these companies maintain as few as 50-100 elevators, while the larger OEMs maintain thousands with extensive service networks spanning the country.

In discussions with selected service providers, the larger OEMs tended to have the business infrastructure to be able to operate in multiple locations simultaneously. Smaller independent firms that did not have such capacity in place often indicated that they could expand within a limited area (across a state or small region) within a given timeframe or execute teaming arrangements to service broader geographical areas. RFI results indicated that most respondents can place staff in new locations within less than 30 days. This figure does not account for time required to obtain access to AF facilities.

An additional factor in assessing the ability of contractors to handle a contract of enterprise magnitude, the RFI ascertained revenues and contract award values:

- 43% (9) of the Large Businesses (21) have annual revenue over \$14.1M
 - 7 of the 9 reported largest prime contract value > \$1M; 4 of 7 > \$5M
 - 7 of 9 reported average contract award > \$21K; 4 of 7 > \$51K
- 66% (20) of the Small Businesses have annual revenue of \$2M or less
 - Only 4 of 30 Small Businesses with prime contract award \$1-5M; only 1 >\$5M
 - 13 reported largest prime contract value < \$500K



- 8 reported average contract award > \$21K; 4 of 8 > \$51K
- 12 reported average contract award < \$10K
- Only 2 Small Businesses have annual revenue above \$7M

Based upon prior contract spend analysis, the AF elevator maintenance portfolio is estimated at around \$3M per year. For a potential 5-year IDIQ contract, the total estimated value would be about \$15M. Although Small Business is performing much of the current AF elevator maintenance work around the U.S., their ability to manage and perform under a nationwide contract is questioned. Their capacity to manage a large scale prime contract (especially when combined with the geographic reach) is in question. Only one small business reported their largest prime contract value being greater than \$5M.

In short, there are approximately 900,000 elevator installations in the U.S. (ElevatorWorld 2010 Vertical Transportation Industry Profile), which includes the AF inventory of approximately 1,200 elevators. This suggests that there is sufficient capacity at both the local and the national level to shift and/or absorb this work.

Industry Products and Services

For equipment maintenance and repair, many vendors offer various tiers of service depending upon the needs of the customer. While the various service levels differed slightly, in general they shared common characteristics summarized below:

Oil & Grease. This agreement provides the basic level of service including cleaning, lubrication, and minor adjustments during normal business hours. The service is provided on specified components only. Repair and associated labor must be contracted separately if needed. The costs of this arrangement alone tend to be low, however, the yearly overall costs may be higher when factoring in repairs. This arrangement also increases the liability exposure for the building owner. This type of agreement may be best suited for customers with newer, highly reliable, and non-critical equipment.



Full Maintenance. A full maintenance agreement is one in which the service provider assumes nearly all risk and responsibility for the equipment under contract. All maintenance, repair, and inspection needs are included in a flat fixed fee regardless of the hours of service. This is the primary means of sourcing maintenance in the private sector per Team conversations with large OEMs as well as selected government entities such as GSA. This contrasts with maintenance conducted today at AF bases, who tend to pay a flat preventative maintenance and inspection fee, and then pay for repairs “as needed”. The benefit to this method is that it places the burden to fix and manage the elevator on the supplier and eliminates approval processes for parts, monitoring of contract ceilings and justification for repairs. Maintenance costs are known and fixed. The supplier focused on maintaining the elevator to a level of defined availability instead of responding and invoicing on an incident by incident basis. The counter-argument to not contracting for maintenance in this manner is that in some years repair costs on a specific elevator may not exceed full-maintenance pricing. The full maintenance model tends to work well for customers with aged, problematic equipment, rather than newer equipment with fewer maintenance and repair needs. Bases with newer equipment could potentially pay higher prices than they have historically with traditional maintenance contracts.

Other Types. Other contract types were variations of the two described above. As described in the Current Strategy Review document, the AF most commonly contracts for routine, preventative maintenance with repairs and parts up to a specified dollar threshold. There is a premium for after-hours/holiday service.

Pricing

A significant element of the Team’s research was identifying the cost drivers in the vertical transportation market and understanding how these impact the prices that the AF pays on a base level and would expect to pay at an enterprise level.



Industry Cost Drivers

According to the market research service IBISWorld, a breakout of industry costs along typical business operational lines is as follows:

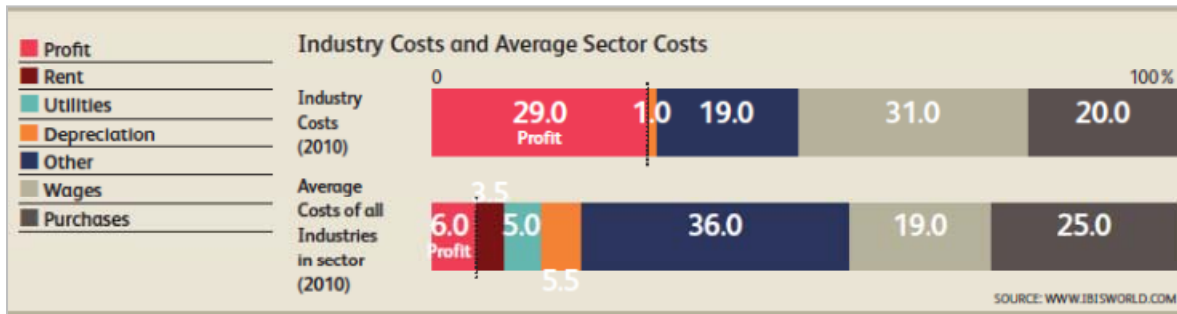


Figure 5: Industry Cost Breakout

Secondary research sources listed the industry average labor costs at 31%. At the supplier level, labor costs typically vary by region of the country and proximity to urban centers. Labor costs generally tend to rise over time, however IBISWorld has noted that employee compensation has declined while industry profitability peaked at 29% in 2008. In comparison to industries such as roofing and painting, with profit percentages of 10 and 24% respectively, it would appear that this high margin would allow room for price negotiation by customers like the AF.

Customer Pricing

Primary and secondary research indicates that prices are also dependent upon the type of customer agreement. Standard maintenance agreements used in the private sector specify a periodic service fee based on numerous factors:

Number of Units. One significant price factor is the number of units to be serviced. This drives the need for additional technicians/inspectors, service vehicles, tools, parts, etc. While it costs the contractor more to provide service for each additional unit, they also often offer discounts for greater volume to maximize economies of scale. Discount opportunities are discussed further later in this section.



Equipment Type: In line with analysis findings from the AF spend, there is a considerable price difference based on equipment type. For example, traction elevators generally have more moving parts and maintenance requirements, and therefore cost more for upkeep, while with hydraulic elevators, the opposite is true. The materials cost and warranty for component repairs/replacement for a traction elevator are 2 to 3 times more than hydraulic. Based on this, service fees are likely higher for high-rise hotels, which typically contain traction elevators and require all-hours operation, than for office buildings that may operate hydraulic elevators during business hours only. The Team estimates that as much as 75% of the AF inventory is hydraulic.

Equipment Age: While there is no exact formula provided to estimate cost by age range, vendors did report a correlation between equipment age and the degree of maintenance and repair requirements. A sample set of contract data obtained by the Team indicated that the eldest elevator equipment dates as far back as 1950 (Elmendorf AFB), with the average age of a CONUS AF elevator at about 20 years.

Manufacturer: With regard to manufacturer, a service contractor may charge more to service a wider variation of equipment (especially other than their own). Contractors may also look to offset risk in servicing equipment from manufacturers no longer in business – where there may be a shortage of spare parts and technical expertise - by charging a premium. Of the contracts catalogued by the Team, approximately 7% were for service on equipment produced by companies no longer in business.

Extent of Use: While there is no exact formula provided to estimate cost by level of use, vendors did report a correlation between usage and the degree of maintenance and repair requirements. Because CONUS AF facilities typically are in use mostly during normal business hours and may not see extensive use during those hours, the extent of use is anecdotally believed to be relatively low.

Desired Service Call Frequency: The frequency of service calls is tied to pricing as well. Customers requiring more frequent service incur greater cost due the need for



on-site technician time and associated travel expenses. A growing trend in the industry is usage-based, rather than frequency-based maintenance. As noted previously, lower usage rates by the AF may yield cost savings through this model and should be further examined. The ability to conduct usage-based maintenance effectively may depend upon the installation of sensors, diagnostic, and remote monitoring equipment that may not be feasible in sensitive military environments.

Location of the Equipment: On AF installations, service contractors have more limited access the base and its buildings, and must undergo the necessary security screening for entry. This process adds time and expense for the vendor that is passed on to the customer. Additionally, the general accessibility of the equipment by the service contractor is also a price factor. Difficult to access locations will require greater time and effort on the part of the technician.

According to discussions with vendors as well as secondary research from Elevator Source⁷, many contractors offer price discounts based on volume and other factors that optimize their ability to provide service. The discount percentages vary by contractor, but are generally offered for:

- Long term contracts: Businesses prefer the stability that a long term (five or more year) contract provides. These contract types may allow for up to a 5% discount. The AF is already taking advantage of this.
- Low occupancy: Elevators with lower usage will require less maintenance, and thus will command fewer visits and needed repairs. These contract types may allow for discounts between 5% and 10%. Data was not available to indicate if AF bases were receiving these discounts.
- Multi-site, multi-building, or national accounts: Service providers can achieve economies of scale by consolidating agreements to cover multiple properties. These contract types may allow for discounts between 5 and 35%, depending upon the number of units to be serviced.

⁷ ElevatorSource.com Q&A on Elevator Maintenance Contracts



Market pricing for elevator maintenance and repair is elusive, as there is little basis for an “apples to apples” comparison. Prices may be presented to customers differently depending upon the contract type. Some contracts de-couple inspection, preventative maintenance, normal business hours repair, after hours repair, etc., and price these components individually. Others bundle them into a single monthly price (see Industry Products & Services). The Team was able to obtain an unofficial industry average for monthly for repair and maintenance services, however one source⁸ provided an estimate of service cost components for a typical service contract on one hydraulic elevator with three landings. These estimates are listed below.

Cost Component	Amount
Labor Including Benefits	\$65.05 One Hour
Travel Time	\$32.53 1/2 Hour
Callback Service (Average 4 per Year, 1/3 Hour per month)	\$32.53 1/2 Hour including Travel
Materials and Parts Cost	\$30.00
Warranty for Component Repairs and Replacement	\$12.00
Overhead at 100%	\$97.58
Profit at 10%	\$30.00
Total Cost for One Month of Maintenance	\$299.69

Figure 6: Industry Average Costs - Hydraulic Elevator Service

Depending upon the contract mechanism, the AF is paying approximately \$380 per hour per unit (see Current Strategy Document). This appears to indicate that prices paid by the AF may be up to 20% higher than industry and suggest room for further negotiation through strategic sourcing.

⁸ HKA Elevator Consulting, Inc. article, “Are You Paying Too Much for Elevator Maintenance?” dated January 2008



Five Forces Analysis

The Porter's Five Forces model is a tool that evaluates the balance of power in a business situation or market by evaluating five influencing levers; Supplier Power, Buying Power, Competitive Rivalry, Threat of Substitution, and Threat of New Entry. This model is typically used to help businesses assess their strategic position prior to entering a new market. For the ESG, the Five

Forces model is applied to identify the potential degree of buying leverage the AF may have with a particular product or service available in that market. To accomplish this, information obtained from primary and secondary research sources was analyzed to identify the perceived AF position within the elevator industry. For each

Force, there are several influencing factors that

must be assessed. Of the many potential factors at play in the model, the Team selected those most applicable to this industry and the AF situation. After assessing each Factor for each Force, the Team selected whether the greatest market influence was with the Supplier or Buyer. If neither entity had a particularly strong influence, the Factor was noted as Neutral. Based upon the total additive tally for Supplier, Buyer, or Neutral, the Force was assigned a rating in a range from Low to High.

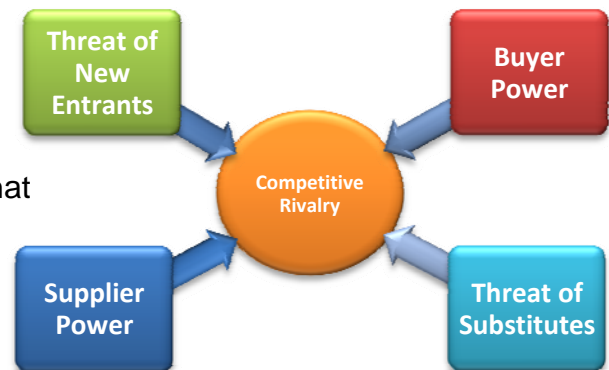


Figure 7: Porter's Five Forces

Five Forces Analysis Conclusion: Buyer's Advantage

The Team has analyzed all factors within the Porter's Five Forces model and determined the AF appears to have sufficient influence as a buyer to support strategic sourcing on a broader level than accomplished today. The inherent high level of competition among elevator contractors, created by the currently depressed U.S. economy, would provide AF leverage in contracting. Assuming all other factors remain unchanged, the AF should be able to effectively negotiate competitive pricing given the current market saturation. Since the barriers to entry are minimal and there is an influx



of contractors trying to tap the market, the AF can be more selective in the sourcing process to increase competition and decrease overall costs.

While some of the elements throughout this research may be evaluated subjectively based on the various research sources, they provide a valid contextual foundation for understanding the market. The research and its results play a significant role in determining the feasibility of an enterprise acquisition.

Five Forces' Factor	Balance of Power		
	Supplier	Neutral	Buyer
Supplier Power	0	2	3
Buyer Power	1	1	2
Competitive Rivalry	1	0	3
Threat of Substitutes	1	1	1
Threat of New Entry	3	0	2
Total	6	4	11

Figure 8: Threat of Substitution

By totaling the scores from each Force, we can see where the Balance of Power rests overall. Based upon the Team's assessment of the Five Forces and their influencing factors, the greatest advantage in the current vertical transportation industry currently appears to be with the Buyer. This suggests that the current market and timing may be suitable for the AF to enter into new enterprise contracts for elevator maintenance, repair, and inspection services. The following Five Force's information provides the background surrounding this conclusion.

Supplier Power: Low/Neutral

In the Five Forces model, the degree of supplier power is mostly derived by the ability to control market prices. This ability is driven by several factors including the overall number of suppliers, the distinctive qualities of the suppliers' products or services, costs incurred by buyers in switching suppliers, the level of demand, and raw material volatility.



In general, when there are fewer suppliers in a market, they tend to have a greater degree of overall influence. According to ElevatorWorld, there were 4,200 registered establishments in the U.S. last year⁹. This is far fewer than some other industries being examined by the ESG – for example, the Painting industry reported over 254,000 and the Roofing industry reported over 112,000 establishments in 2010. There are other considerations, however, that may offset this apparent supply vs. demand imbalance. One of those is the capture of market share amongst individual suppliers or segments of suppliers. According to market research vendor IBISWorld, none of the establishments in the industry account for more than 3.5% of the market in terms of annual revenue. The four top suppliers together comprise less than 10% of annual industry revenue. Additionally, most firms in the industry are small scale contractors which individually wield little influence in narrow geographic markets.

Where suppliers carry a significant competitive advantage due to unique products or service features, those suppliers have much greater market leverage. Primary and secondary research conducted by the Team suggests that while there are many new differentiating features and services associated with modern equipment installed in newer commercial facilities and high-rise buildings, there is little differentiation in the basic services historically required by the AF for its older inventory. For example, all major suppliers provide a similar portfolio of services and offer comparable product lines and features. The degree of differentiation is not significant enough to have a major influence on price, that is, prices are not driven by product/service uniqueness so much as other factors such as firm overhead, contract service level, etc.

Supplier power can also be influenced by buyers' ability to switch amongst suppliers. In private industry, switching costs typically refers to the monetary, emotional, equipment, and learning/training impact incurred by changing suppliers. For

⁹ 2010 Vertical Transportation Industry Profile



the AF buyer, switching costs might be better described as switching risks. These risks would include the effort and time to find and qualify an alternate supplier; the new supplier learning curve for AF equipment, operating procedures, and requirements; and government adaptation to the vendor's practices. In terms of elevator maintenance and inspection, there appear to be low switching risks for a buyer. Unlike in the weapon systems acquisition, the AF does not have to essentially 'invest' in establishing a new production and supply partnership with a single critical source. The AF can, and often does, enter into contracts with new facility service providers every few years with little adverse impact. Finally, considering that 1) maintenance and repair have become standardized under industry-accepted codes (ex., ASME 17.1), and 2) vendors have the capability to service multiple types of equipment, the AF could reasonably expect consistent levels of basic service from a multitude of industry suppliers with relatively low risk. This low level of risk/cost to the buyer generally limits the degree of supplier power in a market.

Aside from the apparent quantitative imbalance of supply vs. demand discussed previously, the general level of demand for an industry's products and services are a significant determinant of supplier power. According to IBISWorld, this industry is heavily susceptible to cyclical fluctuations in manufacturing, office, and apartment building construction. Because 60% of industry revenue is derived from the installation of vertical transportation equipment, demand has slowed somewhat with the recent economic downturn. Although overall demand for new equipment has soured generally, suppliers have retained a steady book of business through long term maintenance contracts on existing equipment. The demand for maintenance and repair work of existing equipment is responsive to several factors, including: the aging of capital stock; the level of capital utilization and industrial output; and the trend towards the outsourcing of maintenance activities to independent contractors.

The raw materials used to produce an elevator consist of mainly steel and metal. Both commodities have seen highly unstable prices and have created large volatility for all producers of OEM parts. Many of the suppliers lack the flexibility to quickly respond to market volatility. The raw materials are inputs in manufacturing of component parts



used by maintenance firms. When considered as 'raw materials', the availability of these parts to non-OEM firms can play a major role in individual supplier influence. Larger suppliers have more access to component supply markets or the ability to control access to their own OEM parts. In turn, this creates supplier power to more tightly control pricing on certain OEM parts. As discussed above, there are a limited amount of OEM manufacturers who can control the making of proprietary components. Suppliers of the raw material costs have recently employed sourcing techniques to alleviate the volatility in commodity prices. For example, suppliers and manufacturers have been known to create partnerships to share supply chain risks by using fixed, long-term contracts. In addition, some OEM manufacturers are locking in volume agreements with suppliers by agreeing to specific terms and conditions. These terms and conditions ease the downstream risk and decrease cost to the end customer. The volatility does have an impact for the AF. If the AF and OEM can collaborate more frequently based on service agreements and maintenance, OEM's can then forecast commodity prices over long term contracts with suppliers. Being able to communicate effectively will alleviate cost associated with the fluctuation in commodity prices over both short and long term



Assessing all factors in combination, the balance of power appears to be in a tight range between Low to Neutral. Suppliers have substantial challenges in this industry, but have maintained their business foothold while still managing to innovate. But because the industry appears to be more reliant upon the sales of the maintenance and repair services which the AF is seeking to acquire, this may slightly shift some influence to the buyer.

Five Forces' Factor	Balance of Power		
	Supplier	Neutral	Buyer
Number of Suppliers		X	
Distinctive Products /			X
Switching Costs			X
Demand			X
Raw Material Volatility		X	
Total	0	2	3

Figure 9: Supplier Power

Buyer Power: Medium

There are several factors which can determine buyer power. One of those is the number of buyers relative to number of suppliers. For the elevator industry, the number of buyers far exceeds the number of suppliers. According to the 2010 Vertical Transportation Industry Profile, building owners operate some 950,000 elevators and escalators in the U.S., while only about 4,200 establishments service that equipment¹⁰. From a simple supply vs. demand standpoint, this would appear to indicate that buyers would not have significant buying power based on this factor alone. The AF 'market share' as a buyer is relatively low based on its contributions (approximately \$3.5M) to annual industry revenues (\$6.2B for maintenance and repair) compared with other buying sectors. According to IBISWorld, the Federal government as a whole only accounts for approximately 3% of annual elevator industry revenue, while the private

¹⁰ IBISWorld Industry Report 23595 – Elevator, Millwright & Machine Rigging Contractors in the US (August 2010)



sector has significant buyer leverage with around 90%. Of the 51 qualified responses to the Team's RFI, only one company reported DoD contracts accounting for over half of their portfolio, and only one company reported that AF contracts accounted for over 60% of its portfolio. The two sources appear to indicate that the AF has little ability to exert pressure on this market in general. From a more localized standpoint, however, the AF may have more buying power where bases are located in larger population centers where there are numerous suppliers. The sheer number of potential elevator contractors provides the AF the ability to engage competition. Remote bases, on the other hand, would likely have little bargaining position due to availability of fewer suppliers. This theory would seem to indicate that, should the AF implement an enterprise IDIQ, it still may not fully remedy the price differences across bases seen today.

Another factor is the degree of dependency upon existing channels of distribution, with the concept being that more channels equals the more options for the buyer. In this industry, services can be purchased through a number of channels including Original Equipment Manufacturers (OEMs), independent maintenance providers, elevator consultants and inspectors, and facility management vendors. Individual business circumstances may dictate which channels a buyer may utilize. In the case of the AF, turning over a large portion of civil engineering functions to an integrated facilities management firm would appear unlikely; however the AF has the ability to negotiate between the large OEMs and smaller, independent service providers - both of whom currently compete for AF contracts.

Although in the case of elevator maintenance it appears of less impact to government entities, switching costs is another factor which can determine buyer power. As mentioned in the Supplier Power section of this analysis, the switching costs/risks for the Buyer are relatively low.



Lastly, the level of purchasing volume typically has an influence upon buying power. Purchasing volume is increased in strategic sourcing by consolidating requirements, typically influencing suppliers to offer lower pricing. An organization such as the AF comes with a significant facilities footprint, and thus has a large quantity of vertical lift equipment requiring upkeep. The ability to aggregate maintenance requirements across the enterprise is likely to provide the AF with a stronger negotiating position and yield volume discounts from service providers. Interviews with suppliers have indicated that tiered pricing is a common contract feature for their commercial clients today.

Five Forces' Factor	Balance of Power		
	Supplier	Neutral	Buyer
Buyer Concentration	X		
Distribution Channel Dependency		X	
Switching Costs / Risks			X
Purchasing Volume			X
Total	1	1	2

Figure 10: Buyer Power

Based upon this assessment, the balance of power for the factors listed appears to be with the AF. Buyer power is at a Medium level based upon low costs/risks of switching suppliers and the high volume of units that would be covered by a supplier.

Competitive Rivalry: Neutral

Competition in the elevator industry is high and remains to stay balanced with regional and specialized markets demanding intense service. The industry is characterized by its many small scale operators competing for installation and maintenance contracts. The emergence of long term facilities management agreements has stabilized demand conditions in the industry over the past decade and stabilized



competitive conditions.¹¹ To remain competitive, contractors must utilize upstream vertical integration by fostering relationships with manufacturers and distributors. In addition, contractors must also rely on relationships with the customer. Maintaining existing contracts and developing repeat business ensures stable profit margins. Reputation in a geographical location has heavy influence on the quality of installation work and maintenance activities. Lastly, being able to adapt to the constant evolution of technology has exposed many contractors to new customers and allowed for a competitive advantage.

To achieve a competitive advantage, each provider must offer an attractive product or service that brings value to the end customer. The elevator industry is comprised of thousands of providers that tend to pride themselves on experience, reach, technology, quality, and satisfaction. The larger suppliers have the ability to invest heavily into R&D and provide innovative technology to meet customer demand. In addition, the larger providers have buying power to reduce redundant acquisition of goods and services. They tend to utilize technology and tools to reduce service delivery costs and leverage cost of materials and services to provide an aggressive price to their customers. All elevator service providers place heavy emphasis to comply with specification and planned maintenance programs that the AF requires. Technicians across the industry must be trained and provide adequate response time.

Integrated Facility Managers have placed a burden on the elevator industry by further condensing and leveraging synergies from the integration of services to help reduce administration, create economies of scale, and ultimately provide cost savings to customers. The entire concept of integration and streamlining processes has caused pressure to the elevator industry to re-evaluate how they can provide service at a minimal cost. The larger maintenance contractors are often able to provide clients with

¹¹ IBISWorld Industry Report 23595 – Elevator, Millwright & Machine Rigging Contractors in the US (August 2010)



total facilities management of all assets by supplying a diverse range of skills (e.g., air conditioning, painting, plumbing, electrical etc.). The emergence of long term facilities management agreements has stabilized demand conditions in the industry over the past decade and stabilized competitive conditions.

Currently, the elevator service providers still have the competitive edge through an extensive national reach/presence.

The majority of firms cannot provide service across the entire U.S. The proven capacity for quality of work and timeliness is the principal basis for competition across all segments of the industry. Price remains an important aspect of competition when contractors

Five Forces' Factor	Balance of Power		
	Supplier	Neutral	Buyer
Competitive Advantage	X		X
Differentiation	X		X
National Presence		X	
New Entrants			X
Total	2	1	3

Figure 11: Competitive Rivalry

have been invited to tender for contracts. The larger suppliers have the advantage through existing strategic partnerships while smaller contractors and some integrated facility management firms struggle to provide service on a broader geographic scale.

There are few constraints for a contractor to initiate a start-up company. The AF can leverage the fact that there are many contractors in the market to meet requirements at a desired cost, and those contractors tend to have longevity in the market. As competition in the market increases, the cost of the services will decrease in an effort to gain a competitive edge in the field. When the cost gets too low for some businesses to operate, they exit the market. Then, as these businesses exit, the cost of services will rise. Rising prices will draw in new entrants to the industry, and the cycle will restart. There is no real predictive consistency in these market cycles for elevator contractors other than to observe their existence in conjunction with the current status of the overall elevator industry. Overall, the AF can expect there will be a substantial amount of small, local businesses that are capable of providing required services at a competitive rate. Overall, the forecasted competition trend will remain stable and will continually have new entrants tapping the market. This can impact the AF by being more selective in awarding contracts to both small and large businesses.



Generally, all competition in the elevator industry hinges on the various dimensions of price, quality, and innovation. The AF must assess each competitor thoroughly to evaluate each dimension to determine what supplier will bring the most value at the least possible cost.

Threat of Substitutes: Low/Neutral

For a supplier, a constant threat is a potential buyer's ability to acquire a substitute product or service, or develop it themselves. The presence of viable substitutes creates price competition and reduces supplier power, but typically benefits the buyer. The ability to utilize substitutes depends on several factors such as product/service availability, differentiation, and equivalency.

Several potential substitutes have been identified which may shift the balance of market power where the AF is concerned. These include: development of organic capability, limitation of further multi-story construction requiring vertical lift equipment, and outsourcing to integrated facilities management firms. Each of these varies with regard to the factors mentioned previously, and is described below.

- Currently, the AF outsources all current elevator installs, maintenance, repairs, and inspection. A potential, however unlikely substitute to contracting for commercial service may be to bring one or more of these services in-house. This would require a significant investment on the part of the AF to become roughly equivalent to what is available from the industry today. Although unlikely to be implemented in the AF, substitution has worked effectively with the Navy, in which elevator inspection is conducted by organic personnel. The Team will examine the potential capability of the Navy to perform this function for the AF as part of Step 5 – Strategy Development. While this may be an available substitute, it would not likely be equivalent to an established industry supplier, whom would have significant differentiation in its capabilities.

A second potential 'substitute' could entail the AF, as part of the ongoing CE "20 by 2020" initiative or other budget-tightening measures, limiting or ceasing new multi-story construction. While existing multi-level buildings would still require elevator service, over time the demand for that service would theoretically slowly decline as the facilities footprint shrinks and/or new buildings take the place of older ones. The reduction in demand



would reduce supplier power with the AF, however, the reduction in volume would also allow less room for negotiation.

- Lastly, there is an increasing trend of large, multi-site enterprises consolidating vertical transportation service with other facilities operations and maintenance activities with a single vendor. The Team met with several such Integrated Facilities Management (IFM) firms such as Jones Lang LaSalle and CB Richard Ellis, whom indicated that they provide vertical transportation service with in-house personnel vs. subcontracting to specialized elevator maintenance firms. IFM firms are becoming direct competitors in this market space, and represent a considerable threat in their ability to provide equivalent service. Market research has indicated that contracting for elevator service constitutes an available substitute but may not carry the full set of capabilities that an OEM uses to differentiate itself.

Five Forces' Factor	Balance of Power		
	Supplier	Neutral	Buyer
Product / Service Availability			X
Product / Service Differentiation	X		
Product / Service Equivalency		X	
Total	1	1	1

Figure 12: Threat of Substitutes

From the perspective of industry suppliers, the threat of substitutes is relatively Neutral. While the incumbent vertical transportation services firms have competitive advantage, and ability to deliver on a large scale, they remain able to differentiate themselves to a sufficient degree.



Threat of New Entry: Neutral

"There are few obstacles directly restricting entry of suitably qualified competitors into this industry, however, barriers to entry are considered to be medium as new entrants are likely to find it difficult to establish a viable foothold over the short term as competition favors incumbents with a proven track record."

-
IBISWorld

This factor is of most concern to private sector businesses whose established market share or competitive position may be compromised by new businesses entering the industry. New firms entering an industry create further competition and innovation; this can also result in reduction of both prices and profits. This can be advantageous to customers, but is not seen favorably by incumbent businesses who desire to keep high and stable profits. One major aspect in determining the threat of new entrants is the existence of barriers to entry. Common barriers to entry to a market might include profitability, time/cost to build economies of scale, capital outlay, and existence of patented or proprietary products.

While profits associated with new equipment installation have declined with the commercial construction market, they have remain stable for the industry overall due to the pervasiveness of long term maintenance and repair contracts. According to IBISWorld, 2010 profits stood at 29%. In general, the higher the profit levels, more new businesses are willing to enter the industry. This additional competition would benefit customers such as the AF.

In terms of economies of scale, larger firms such as the OEMs have the capability to deliver service and parts on a large scale, however, it does not appear necessary to compete on a local basis. Contractors servicing one or a few local sites can succeed with a smaller operation, and these smaller independent operations comprise the bulk of the established businesses. The threat of new entry at the local level places the balance of power towards the supplier from an AF strategic sourcing viewpoint. New local entrants will not have the economies of scales to compete on a regional or national level.

Capital requirements to establish a new elevator maintenance or inspection firm are relatively low at a local level. Some of these requirements include diagnostic and



repair tools, service vehicles, and commonly needed parts. As often with many service businesses, the largest cost component is qualified staffing and licensing. However, on a regional or national level, the capital requirements and ability to gain a fair market share on a large scale to provide sustainable returns is in the current large suppliers benefit.

Large OEMs often produce components of proprietary nature. This may restrict other contractors in providing service, however, the industry has proven capable of reverse engineering such components and creating training to reduce the learning curve of maintaining them. As commercial construction has dampened, there is likely to be less new vertical lift equipment which is controlled by proprietary components. In the case of the AF, most equipment is between twenty to thirty years old on average, and opens up competition to non-OEM firms

Another barrier to entry is vertical integration. Vertical integration is a process in which a supplier becomes involved in providing additional up- or downstream products or services in order to increase control in the marketplace. For the vertical transportation industry, product suppliers often install as well as service their own equipment, reducing demand for independent

Five Forces' Factor	Balance of Power		
	Supplier	Neutral	Buyer
Profitability			X
Economies of Scale	X		
Capital Outlay	X		
Proprietary Products			X
Vertical Integration	X		
Total	3	0	2

Figure 13: Threat of New Entrants

contractors. Having already established a relationship through the product sale and warranty service periods, the suppliers are generally in a stronger position to capture a longer term maintenance contract with a customer. Based upon this assessment, the balance of power appears to rest with the AF. The threat to the buyer is Low based upon the ability of new businesses to enter the market and both new and existing businesses to adapt to and overcome proprietary components in service.



Non-AF Approaches to Acquiring Elevator Services

As part of its market research, the Team also engaged in discussions with entities outside of the AF. These reviews were conducted to identify best practices, establish relative cost comparisons, and discover innovative acquisition approaches. Informal external benchmarking was conducted with other DoD components whom perform a similar mission and have somewhat similar operating requirements. For instance, military organizations tend to have relatively similar footprints (base and facility sizes, low-rise buildings), operate similar vertical lift equipment (type and age), and adhere to most of the same standards and codes. The Team also reviewed the practices of other Governmental organizations whom are using innovative methods to acquire similar services from the market. Lastly, a brief examination of commercial firms was conducted to ascertain their practices with regard to acquiring elevator services. The Team placed less focus on these entities due to the major differences in equipment and operating requirements. For example, large commercial businesses are more likely to have high-rise buildings with modern equipment, fewer concentration of buildings, and more extensive operating requirements, such as round-the-clock operation and short callback response times. The specific findings from each set of entities is detailed below.

Other DoD Components

Review of other DoD Component approaches included several conversations with the U.S. Navy Facilities Engineering Command (NAVFAC), an organization roughly equivalent to AF Civil Engineering in their mission to maintain public works, manage assets, and sustain facilities. NAVFAC is acknowledged as having one the model programs and high level of expertise within the DoD for elevator maintenance and inspection. Through discussions with NAVFAC, the Spiral Team learned that the Navy awards regional elevator maintenance service contracts. Cost comparison data for the Navy's elevator maintenance contracts was not available at the time this document was prepared. The Navy prohibits equipment inspection by the same vendor providing the maintenance and repair. NAVFAC employs a cadre of 45 qualified elevator inspectors



that conduct their own technical and safety annual inspections (the semi-annual inspections are contracted out) – a significantly different approach in comparison to the AF. The AF has neither hired certified elevator inspectors nor trained their personnel to that level of expertise. The Navy’s certified inspectors perform acceptance, testing, and inspection, led by a supervising official located at each of the 10 Facility Engineering Centers (FECs). NAVFAC also provides training to the Performance Assessment Representatives (PARs), whom act in a similar role to AF quality assurance persons (QAPs). Additionally, NAVFAC is responsible for the capital improvement program and provides updates to design criteria, design guide, and unified facilities criteria. Currently, the Navy is already responsible for inspections at Aviano AB, Italy, as well as selected projects with the U.S. Army Corps of Engineers (USACE). The Spiral Team is exploring the potential of the Navy providing inspection services for the AF CONUS vertical lift inventory. Discussions in terms of timeline, resources, cost, and working relationships are ongoing.

Team research, also, included the U.S. Army Installation Management Command (IMCOM), which is responsible for overseeing all facets of Army installations such as construction and infrastructure management, public works, and installation funding. The Army reported that they have local garrison contracts for elevator repair services; this approach is similar to how the AF currently services its elevators. Cost comparison data for the Army’s elevator maintenance contracts was not available at the time this document was prepared.

Other Government Entities

In addition to the General Services Administration’s (GSA) 03FAC Schedule evaluated in earlier strategic sourcing process stages, the Team also reviewed elevator-related service contracts under active solicitation by GSA on the Federal Business Opportunities (FBO) website. While many were similar in scope and approach to the AF, one solicitation in particular incorporated many unique features which warranted mention here.



A February 2010 solicitation from the GSA Public Buildings Service used a regional approach encompassing 23 states (divided into four regions) to provide preventative maintenance, repair, and testing services for approximately 1,200 elevator and escalator units. All units in a region were grouped by OEM, with the RFP requiring each responsible offeror to bid all units in a group. The solicitation included many of the components mentioned in discussions with industry as standard practice in today's commercial market including full maintenance, extended contract duration, and volume leveraging.

The many factors contributing to elevator maintenance pricing make an “apples to apples” comparison difficult. The following prices were provided by GSA for structures deemed similar to AF buildings:

City	State	No. of Units	Monthly Price
Batesville	AR	1 unit	\$277.31
Birmingham	AL	5 units	\$1,620.44
Charlotte	NC	4 units	\$1,002.10
Butte	MT	3 units	\$506.89
Kansas City	MO	3 units	\$723.90
Hannibal	MO	1 unit	\$382.04

Figure 14: GSA Prices for Representative Federal Buildings

Based on the sample above, the average price for full maintenance was approximately \$265/mo. (\$3,185/yr.). The current AF average price for maintenance service is approximately \$323/mo (\$3,876/yr.). This comparison shows that GSA monthly price per elevator is approximately 18% less than AF for comparable greater level of service, suggesting that full maintenance contracts may be a viable option for future AF strategic sourcing.

Private Sector Entities

A growing trend with large commercial enterprises is the use of Integrated Facilities Management (IFM) firms to supply all facility and property needs to include elevator services. This is resulting in further industry consolidation, as traditional



vertical transportation vendors mobilize to compete against IFM firms. Team discussions with several IFM firms such as Jones Lang LaSalle have indicated successful use of national elevator service contracts, and have yielded nearly 14% savings for commercial clients. IFM firms achieve this by establishing standing service agreements with suppliers and service providers. This practice allows them to achieve significant sourcing leverage and reduced costs. Those agreements are then packaged together to provide a complete and competitive facility and property management solution to clients. It should be noted, however, that these firms are not subject to the statutory requirements under which the AF must operate.

Key Findings and Recommendations

Evaluation of the current vertical transportation market yielded the following primary conclusions:

- The services desired by the AF are commercially available and vendors are willing to engage with the Government. Any potential future contracting efforts may use FAR Part 12 for Commercial Acquisitions.
- There is a high degree of competition in this industry and excess capacity in general to meet perceived AF requirements.
- Vendors in this industry offer several different service tiers, some of which may have the ability to offer cost efficiencies to the AF.
- The ability to strategically source elevator services has been proven successful within both the public and private sectors.
- Average prices paid by commercial and Federal customers appear to be up to 18-20% lower than historical contract pricing paid by the AF. With the large elevator inventory and high profit margins enjoyed by contractors, the AF should expect to negotiate improved pricing on strategic contracts.
- The current market and timing appear suitable for the AF to enter into new enterprise contracts for elevator services.
- Small business comprises a majority of the industry as well as AF spend at the individual base level, however few appear capable of servicing bases across a region or the entire CONUS.



- Given the known AF vertical transportation inventory and current economic conditions, the AF wields sufficient buying power within the vendor base to pursue a strategic sourcing solution. Although the AF only controls a small percentage of the total number of elevators in the U.S., few customers have as large of a portfolio as the AF.

Next Steps

This document reflects our initial findings based upon early internet research, supplier discussions, and other industry engagement to date. The Spiral Team will seek to obtain stakeholder feedback on these initial findings, as well as after any additional findings are discovered as the project progresses through the AF Strategic Sourcing Methodology. Key findings from this document will provide direction to the Team in how to focus its efforts in subsequent sourcing process stages.

In case of any significant revision, the Spiral Team will re-validate with stakeholders, and adjust project activities and schedules accordingly. This document will be posted on the CECC Enterprise Information Management (EIM) site listed below. Navigate to the Developing Programs column and select the blue button titled “Elevator Maintenance Services Spiral.”



List of References

- Air Force Logistics Management Agency (AFLMA). (1997, August). *Market research/Analysis guide* (Project No. LC9622200). Retrieved from <http://www.il.hq.af.mil/aflma/lgc/projects/market/market.html>
- Air Force Small Business Solutions Center (AFSBSC). (2009a, January). *Business case input: AFFCC—Dorm furniture*. Scott Air Force Base, IL: Air Mobility Command.
- Air Force Small Business Solutions Center (AFSBSC). (2009b, August). *Business case input: AFFCC—Seating*. Scott Air Force Base, IL: Air Mobility Command.
- Air Mobility Command (AMC). (2009). *Furnishing commodity council commodity acquisition management plan* [Unpublished PowerPoint presentation]. Scott Air Force Base, IL: Air Mobility Command.
- Ashenbaum, Bryan and Pannelle, Scott (2007), “American Electric Power Business Planning & Analysis Group: Turning Raw Data Into Informed Decisions”, *Practix*, Center For Advanced Purchasing Studies (CAPS).
- Chapman, A. (2005–2009). SWOT analysis template. Retrieved from <http://www.businessballs.com/swotanalysisfreetemplate.htm>
- Cibinic, J., Jr., & Nash, R. C., Jr. (1998). *The Formation of Government Contracts* (3rd Ed.). Austin, TX: Wolters Kluwer.
- Cortese, C. A., Shelby, H., & Strobel, T. J. (2005). *Defining success: The Air Force Information Technology Commodity Council* (NPS-CM-06-006). Monterey, CA: Naval Postgraduate School.
- Cox, A. (2001). Understanding buyer and supplier power: A framework for procurement and supply competence. *The Journal of Supply Chain Management*, 8–15.
- Cox, A., Sanderson, J., & Watson, G. (2000). *Power regimes: Mapping the DNA of business and supply chain relationships*. Boston, United Kingdom: Earlsgate Press.
- Culbert, K. (2011). Industry Report 56162: Security Alarm Services In The US. Santa Monica, CA: IBIS World.
- Defense Acquisition University (DAU). (2011). *Small business*. Retrieved from <https://acc.dau.mil/CommunityBrowser.aspx?id=303104&lang=en-US>
- Defense Federal Acquisition Regulation Supplement (DFARS), 48 C.F.R. ch. 2 (2011).



Denali Group (2009), "Knowledge is Power: How Market Intelligence Can Enhance Your Category Management Capabilities", *The Denali Source*.

Department of Defense (DoD). (1997, July). *Market research: Gathering information about commercial products and services*. Retrieved from https://www.acquisition.gov/comp/seven_steps/library/DODmarket-research.pdf

Department of Defense (DoD). (2011, February). *Guidebook for the acquisition of services*. Retrieved from http://www.acq.osd.mil/dpap/ccap/cc/jcchb/Files/Topical/Services_files/guides/Guidebook_for_the_Acquisition_of_Services.docx

Duffy, R. (2005, January). *Critical Issues Report: Supply base rationalization*. CAPS Research.

Ehrlich, P., Kupritz, R., Lewis, A., and Seewald, J. (2010). *Current Situation and Trends In Buildings and Facility Operations*. Building Intelligence Group, LLC.

Elmendorf, D.W. (2009). *An Analysis of Health Insurance Premiums Under the Patient Protection and Affordable Care Act*. Congressional Budget Office, Washington, D.C.

Federal Acquisition Regulation (FAR), 48 C.F.R. ch. 1 (2011).

Ferrell, O., Hartline, M., Lucas, G., & Luck, D. (1998). *Marketing strategy*. Orlando, FL: Dryden Press.

General Accounting Office (GAO). (1996, October). *Acquisition reform: The Government's market research efforts* (GAO-97-0003). Washington, DC: Author. Retrieved from <http://www.gao.gov/archive/1997/ns97003.pdf>

Giunipero, Larry C. (2000), "A Skills-based Analysis of the World-class Purchaser", Center For Advanced Purchasing Studies (CAPS).

Gordon, D. I. (2010, July 15). *Statement of the Honorable Daniel I. Gordon, Administrator for Federal Procurement Policy, Office of Management and Budget, Before the Committee on the Budget, United States Senate*.

Handfield, Robert B. (2006). *Supply Market Intelligence: A Managerial Handbook for Building Sourcing Strategies*. Boca Raton, FL: Taylor and Francis Group, LLC.

Headquarters Air Force Materiel Command (HQ AFMC). (2007, September). *Market research process guide*. Retrieved from http://www.acq.osd.mil/dpap/ccap/cc/jcchb/Files/Topical/MR_files/guides/market_research_guide.doc



- Hult, G. T. M., Ketchen, D. J., Adams, G. L., & Mena, J. A. (2008). Supply chain orientation and balanced scorecard performance. *Journal of Managerial Issues*, 20(4), 526–544.
- Kim, W. C., & Mauborgne, R. (1997). Value innovation: The strategic logic of high growth. *Harvard Business Review*, 75(1), 103–112.
- Kirca, Ahmet H., Jayachandran, Satish, and Bearden, William O. (2005). “Market Orientation: A Meta-analytic Review and Assessment of Its Antecedents and Impact on Performance”, *Journal of Marketing*, 69 (April), pp. 24-41.
- Kohli, A. K., & Jaworski, B. J. (1990). Market orientation: The construct, research propositions, and managerial implications. *Journal of Marketing*, 54(2), 1–18.
- Kraljic, P. (1983). Purchasing must become supply management. *Harvard Business Review*, 61(5), 109–117.
- Krause, D., & Handfield, R. (1999). *Developing a world class supply base*. Tempe, AZ: Center for Advanced Purchasing Studies.
- Leenders, Michiel R., Johnson, Fraser, P., Flynn, Anna E., and Fearon, Harold E. (2006), *Purchasing and Supply Management*, 13th ed. McGraw-Hill Irwin, Boston: MA.
- Manual For The Operation Of The Joint Capabilities Integration And Development System (JCIDS). 31 Jan 11. Retrieved From https://Www.Intelink.Gov/Wiki/Jcids_Manual
- Mind Tools. (n.d.). SWOT analysis. Retrieved from http://www.mindtools.com/pages/article/newTMC_05.htm
- Moldvay, C. (2012). Industry Report 56172: Janitorial Services In The US. Santa Monica, CA: IBIS World.
- Monczka, R. M., Handfield, R. B., Giuipero, L. C., & Patterson, J. L. (2009). *Purchasing & supply chain management (4th Ed.)*. Mason, OH: South-Western College.
- MTW Research. (2010). *Facilities management market research & analysis—UK 2010*. Gloucestershire, United Kingdom: MTW Press.
- Muir, William A. (2010). *Spend Analysis Project*. Naval Postgraduate School.
- National Aeronautics and Space Administration (NASA). (1998). *NASA’s market research guide*. Washington, DC: U.S. Government Printing Services.



- Nicosia, N. and Moore, N. (2006). *Implementing Purchasing and Supply Chain Management: Best Practices In Market Research*. Santa Monica, CA: RAND Corporation.
- Office of Management and Budget (OMB). (2005, May 20). *"Implementing Strategic Sourcing"* Memorandum, Washington, DC: Executive Office of the President, Office of Management and Budget (OMB).
- Office of Management and Budget (OMB). (2009, July 29). *Improving government acquisition*. Memorandum, Washington, DC: Executive Office of the President, Office of Management and Budget (OMB). Retrieved August 15, 2009, from http://www.whitehouse.gov/omb/assets/memoranda_fy2009/m-09-25.pdf
- Porteous, Elaine (2011), "An Intelligent Pursuit", SupplyManagement.com. Retrieved 14 Jun 11 from: <http://www.supplymanagement.com/resources/how-to/an-intelligent-pusuit/>.
- Porter, M. E. (1979, March/April). How competitive forces shape strategy. *Harvard Business Review*.
- Porter, M. E. (2008, January). The five competitive forces that shape strategy. *Harvard Business Review*.
- Ragatz, G. L., Handfield, R. B., & Scannell, T. V. (1997). Success factors for integrating suppliers into new product development. *Journal of Production Innovation Management*, 14, 190–202.
- Ripley, K. (2011). Industry Report 23595: Elevator Repair and Maintenance In The US. Santa Monica, CA: IBIS World.
- Size Standards Division. (2009). *SBA size standards methodology*. Washington, DC: Office of Government Contracting & Business Development.
- The University of Tennessee (2009). *JIT Sourcing Workshop Step 3: Market Intelligence*. Training Slides.
- Under Secretary of Defense for Acquisition, Technology, and Logistics (USD[AT&L]). (2002, April 5). *Mandatory procedures for major defense acquisition programs and major automated information system acquisition programs* (DoD Instruction 5000.2-R). Washington, DC: Author.
- United States Code (USC). (2011). Title 15, Chapter 14A, Sections 631a–633. Washington, DC: US Government Printing Office
- United States Department of Labor. (2011, October). *Producer price indexes for the net output of selected industries and their products, not seasonally adjusted* [Data file]. Retrieved from <http://www.bls.gov/web/ppi/ppitable05.pdf>



Warner Robins Air Logistics Center (WR-ALC). (2011). *The small business program at WR-ALC*. Retrieved from <http://www.wrcoc-aic.org/Archive/Briefings/09Briefings/July09.pdf>

Zsidisin, George (2005), "Managing Commodity Spend In Turbulent Times", *Critical Issues Report*, Center For Advanced Purchasing Studies (CAPS).

Zsidisin, G., & Ellram, L. (2001, June). Activities related to purchasing and supply management involvement in supplier alliances. *International Journal of Physical Distribution & Logistics Management*, 31(9), 629–646.



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